Initial Study/Mitigated Negative Declaration Appendices

Headworks Site Development Project

Lead Agency:

Los Angeles Department of Water and Power
Environmental Planning and Assessment
111 North Hope Street, Room 1044
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APPENDIX A

Air Quality Impact Study

HEADWORKS SITE DEVELOPMENT PROJECT

Air Quality Impact Study

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taha
environmental planners

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1.0 SUMMARY OF FINDINGS

Terry A. Hayes Associates Inc. (TAHA) completed an Air Quality Impact Study (Study) for the Headworks Site Development Project (proposed project) located in the City of Los Angeles (City). This Study addresses potential environmental impacts associated with air pollutant emissions generated by the construction and operation of the proposed project in accordance with South Coast Air Quality Management District (SCAQMD) guidance methodologies. Conclusions that address significance determinations under the California Environmental Quality Act (CEQA) Environmental Checklist criteria are shown in **Table 1-1**. The Study concludes that the proposed project would result in less-than-significant impacts related to construction and operational emissions.

TABLE 1-1: SUMMARY OF IMPACT STATEMENTS

Impact Statement	Proposed Project Level of Significance	Applicable Mitigation Measures
Would the proposed project conflict with or obstruct implementation of the applicable air quality plan?	Less-Than-Significant Impact	None
Would the proposed project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	Less-Than-Significant Impact	None
Would the proposed project expose sensitive receptors to substantial pollutant concentrations?	Less-Than-Significant Impact	None
Would the proposed project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less-Than-Significant Impact	None

SOURCE: TAHA, 2024.

2.0 INTRODUCTION

2.1 STUDY PURPOSE

The purpose of this Study is to evaluate the potential significance of environmental impacts related to air quality resulting from implementation of the proposed project. Consistent with SCAQMD guidance, potential impacts to air quality are characterized by comparing daily emissions of air pollutants that would be generated during construction and operation of the proposed project to the applicable Air Quality Significance Thresholds, at both regional and localized scales.

2.2 PROJECT DESCRIPTION

The proposed water quality lab (WQL) would include approximately 100,000 gross square feet of floor space; surface parking for 12 visitor vehicles, 102 staff vehicles, and 20 Los Angeles Department of Water and Power (LADWP) fleet vehicles; a mobile laboratory trailer; landscaping; and other site improvements. It would be located to the east of the proposed Direct Potable Reuse (DPR) Demonstration Facility at the Headworks Spreading Grounds (HWSG) property. The facility would also be designed to meet Mayor Garcetti's Resilience by Design Directive by obtaining Leadership in Energy and Environmental Design (LEED) gold certification, with the objective to achieve LEED Platinum certification and Envision Sustainable Infrastructure certification. The facility would also include a green roof, which would be covered with vegetation to reduce heat and capture stormwater. The building would achieve energy efficiency by implementing strategies including building orientation, high-performance building envelope, and effective daylighting complemented by high performance lighting and high efficiency heating, ventilation, and air conditioning (HVAC) systems. The proposed project would include EV charging stations in compliance with Los Angeles Department of Building and Safety (LADBS) Electric Vehicle Charging Stations (EVCS) requirements. It would incorporate recycled material in all aspects of the building construction to promote a sustainable supply chain. All lighting and lighting controls for the facility would comply with the latest version of the Building Energy Efficiency Standard (Title 24) and the California Green Building Standard Code.

The DPR Demonstration Facility would be an advanced water purification facility (AWPF). The AWPF and support facilities and areas would be approximately 20,000 square feet, with an additional 20,000 square feet for a surrounding vehicle access road. A visitor center and a parking lot would also be provided. The visitor center would be approximately 5,000 square feet, and a parking lot would require approximately 16,500 square feet to accommodate staff and visitors. The DPR Demonstration Facility and visitor center would be located at the west end of the HWSG property.

The centerpiece of Headworks Park would be the West Reservoir Gardens, constructed on top of the approximately eight-acre West Reservoir, which will have been covered with several feet of soil to enable planting. Surrounding the reservoir garden and extending into other portions of the HWSG property would be a series of pedestrian, bicycle, and equestrian pathways, including the Headworks segment of the Los Angeles River Trail. The park would be developed in the eastern portion of the property, atop the West Reservoir, with other park features, including parking, a pavilion building, trails and site landscaping, located in adjacent areas.

The primary vehicular access to the Headworks site for all the proposed project components would be from Forest Lawn Drive at Mount Sinai Drive. Secondary access for employee, service, and maintenance vehicles would be provided from Forest Lawn Drive at the west end of the Headworks site. Public access to the Headworks site, would be limited to dawn to dusk.

Figure 2-1 shows the regional location of the proposed project. **Figure 2-2** shows the site plan.

Source: AECOM, 2021.

Headworks Site Development Project
Air Quality Impact Study

MICHAEL BAKER INTERNATIONAL

TAHA 2021-041

FIGURE 2-1

REGIONAL LOCATION

Legend

1. Headworks Park (Proposed)
2. Headworks Park - Pavilion Gateway (Proposed)
3. Headworks Park - Parking Lot (Proposed)
4. LA River Trail Segment (Proposed)
5. Access Road (Proposed)
6. Equestrian Tunnel (Existing)
7. Connection to Griffith Park (Existing)
8. Water Quality Lab (Proposed)
9. DPR Demonstration Facility (Proposed)
10. DPR Demonstration Facility Visitor Center (Proposed)
11. East Reservoir (Existing)
12. Flow Control Station (In Construction)

Source: LADWP, 2024.

FIGURE 2-2

PROJECT LOCATION

2.3 CONSTRUCTION SCHEDULE

Construction of the proposed project is anticipated to begin in the fourth quarter of 2024 with the Headworks Restoration Park, which would take approximately 3.3 years to complete, concluding in the first quarter of 2028. The construction of the proposed WQL would begin in the second quarter of 2027, overlapping the last phases of the park construction by approximately nine months. The proposed WQL construction would take approximately 2.5 years to complete, concluding in the first quarter of 2030. Construction of the proposed DPR Demonstration Facility would follow in succession, starting in the second quarter of 2030 and ending in the fourth quarter of 2031, a period of approximately 1.5 years. Accounting for overlaps in the construction periods for the project components, the total construction time for the proposed project would be approximately seven years, from late 2024 to late 2031. Construction activities would typically occur Monday through Friday during the daytime hours, beginning no earlier than 7:00 a.m. and generally ending by 5:00 p.m. Saturday construction may also be required at times.

3.0 AIR QUALITY

This section evaluates the proposed project's potential impacts on air quality. This section estimates the air pollutant emissions generated by the proposed project and whether emissions would conflict with or obstruct implementation of the applicable air quality plan; result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment under an applicable federal or State ambient air quality standard; expose sensitive receptors to substantial pollutant concentrations; or result in other emissions, such as those leading to odors, affecting a substantial number of people.

3.1 AIR QUALITY BACKGROUND

3.1.1 Air Quality and Public Health

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of an overall endeavor to prevent further deterioration and to facilitate improvement in air quality. The National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety, and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.[1] As the scientific methods for the study of air pollution health effects have progressed over the past decades, adverse effects have been shown to occur at lower levels of exposure. For some pollutants, no clear thresholds for effects have been demonstrated. New findings over time have, in turn, led to the revision and lowering of NAAQS which, in the judgment of the United States Environmental Protection Agency (USEPA), are necessary to protect public health. The NAAQS and CAAQS are listed in **Table 3-1**.

The SCAQMD is the regulatory agency responsible for improving air quality for large areas of Los Angeles, Orange County, Riverside and San Bernardino Counties, including the Coachella Valley.[2] The City of Los Angeles is located within the South Coast Air Basin (Air Basin) which is a distinct geographic subarea within the SCAQMD's jurisdiction. The SCAQMD, together with the Southern California Association of Governments (SCAG), has the responsibility for ensuring that national and State ambient air quality standards are achieved and maintained for the Air Basin. Failure to comply with these standards puts State and local agencies at risk for penalties in the form of lawsuits, fines, a federal takeover of State implementation plans, and a loss of funds from federal agencies.

To meet the air quality standards, regional plans are developed, including the SCAQMD's Air Quality Management Plan (AQMP), which incorporates regional demographic projections and integrated regional land use and transportation strategies from SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). These plans work together to examine multiple pollutants, cumulative effects, and transport issues related to attaining healthful air quality in the region. In addition, a host of regulatory standards at the federal, State, regional, and local level function to identify and limit exposure of air pollutants and toxic air contaminants.

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[1]USEPA, *NAAQS Table*, https://www.epa.gov/criteria-air-pollutants/naaqs-table, accessed January 18, 2024.
[2]SCAQMD, *Map of Jurisdiction*, http://www.aqmd.gov/docs/default-source/default-document-library/map-of-jurisdiction.pdf, accessed January 18, 2024.

3.1.2 Local Air Quality and Air Pollution Sources

As mentioned above, the City of Los Angeles is located within the Air Basin, which is an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east; and San Diego County to the south. The Air Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the Coachella Valley area in Riverside County. The regional climate within the Air Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality within the Air Basin is primarily influenced by meteorology and a wide range of emissions sources, such as dense population centers, heavy vehicular traffic, and industry.

The Air Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid to late afternoons on hot summer days. Winter inversions frequently break by midmorning.

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. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino counties. In the winter, the greatest pollution problem is the accumulation of carbon monoxide (CO) and nitrogen oxides (NO_X) due to 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 NO_X to form photochemical smog.

Air pollutant emissions within the Air Basin are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

3.1.3 Air Pollutant Types

3.1.3.1 Criteria Pollutants

The six principal pollutants for which national and State criteria and standards have been promulgated, known as “criteria pollutants,” and which are most relevant to current air quality planning and regulation in the Air Basin include: ozone (O_3), respirable and fine particulate matter (PM_{10} and $PM_{2.5}$, respectively), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). These pollutants are referred to as “criteria air pollutants” as a result of the specific standards, or criteria, which have been adopted for them.

i. *Ozone (O_3)*

O_3 is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_X) - both byproducts of internal combustion engine exhaust - undergo slow photochemical reactions in the presence of sunlight. O_3 concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. An elevated level of O_3 irritates the lungs and breathing passages, causing coughing and pain in the chest and throat, thereby increasing susceptibility to respiratory infections and reducing the ability to exercise. Effects are more severe in people with asthma and other respiratory ailments. Long-term exposure may lead to scarring of lung tissue and may lower lung efficiency.

ii. *Particulate Matter (PM_{10} and $PM_{2.5}$)*

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Respirable and fine particulate matter, PM_{10} and $PM_{2.5}$, consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in areas like the City of Los Angeles, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities. The human body naturally prevents the entry of larger particles into the body. However, small particles can enter the body and become trapped in the nose, throat, and upper respiratory tract. These small particulates can potentially aggravate existing heart and lung diseases, change the body's defenses against inhaled materials, and damage lung tissue. The elderly, children, and those with chronic lung or heart disease are most sensitive to PM_{10} and $PM_{2.5}$. Lung impairment can persist for two to three weeks after exposure to high levels of particulate matter. Some types of particulates can become toxic after inhalation due to the presence of certain chemicals and their reaction with internal body fluids.

iii. *Carbon Monoxide (CO)*

CO is a colorless, odorless gas primarily emitted from combustion processes and motor vehicles due to incomplete combustion of carbon-containing fuels such as gasoline or wood. In urban areas, such as the City of Los Angeles, automobile exhaust accounts for the majority of CO emissions. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike O_3, motor vehicles operating at slow speeds are the primary source of CO in the Air Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections. Elevated concentrations of CO weaken the heart's contractions and lower the amount of oxygen carried by the blood. It is especially dangerous for people with chronic heart disease. Inhalation of CO can cause nausea, dizziness, and headaches at moderate concentrations and can be fatal at high concentrations.

iv. *Nitrogen Dioxide (NO_2)*

Nitrogen dioxide is a nitrogen oxide compound that is produced by the combustion of fossil fuels, such as in internal combustion engines (both gasoline and diesel powered), as well as point sources, especially power plants. Of the seven types of NO_X compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic areas, such as urban areas like the City of Los Angeles, may be exposed to higher concentrations of NO_2 than those indicated by regional monitors. NO_2 absorbs blue light and results in a brownish-red cast to the atmosphere and reduced visibility. NO_2 also contributes to the formation of PM_{10}. Nitrogen oxides irritate the nose and throat, and increase one's susceptibility to respiratory infections, especially in people with asthma. The principal concern of NO_X is as a precursor to the formation of O_3.

v. Sulfur Dioxide (SO_2)

Sulfur oxides (SO_X) are compounds of sulfur and oxygen molecules. SO_2 is the predominant form found in the lower atmosphere and is a product of burning sulfur or burning materials that contain sulfur. Major sources of SO_2 include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Generally, the highest levels of SO_2 are found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. Emissions of SO_2 aggravate lung diseases, especially bronchitis. It also constricts the breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. SO_2 potentially causes wheezing, shortness of breath, and coughing. High levels of particulates appear to worsen the effect of SO_2, and long-term exposures to both pollutants leads to higher rates of respiratory illness.

vi. Lead (Pb)

Pb is a metal found naturally in the environment as well as in manufactured products. The highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions to the air are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. Pb is also emitted from the sanding or removal of old lead-based paint. Pb emissions are primarily a regional pollutant. Pb affects the brain and other parts of the body's nervous system. Exposure to Pb in very young children impairs the development of the nervous system, kidneys, and blood forming processes in the body.

3.1.3.2 Additional Criteria Pollutants (California Only)

In addition to the national standards, the State of California regulates State-identified criteria pollutants, including sulfates (SO_4^2), hydrogen sulfide (H_2S), visibility-reducing particles, and vinyl chloride. With respect to the State-identified criteria pollutants, most land use development projects either do not emit them (i.e., H_2S [nuisance odor] and vinyl chloride), or otherwise account for these pollutants (i.e., SO_4^2 and visibility reducing particles) through other criteria pollutants. For example, SO_4^2 are associated with SO_X emissions, and visibility-reducing particles are associated with particulate matter emissions. A description of the health effects of the State-identified criteria air pollutants is provided below.

i. Sulfates (SO_4^{2-})

SO_4^{2-} are the fully oxidized ionic form of sulfur. SO_4^{2-} occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized during the combustion process and subsequently converted to sulfate compounds in the atmosphere. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. SO_4^{2-} are particularly effective in degrading visibility, and, due to the fact that they are usually acidic, can harm ecosystems and damage materials and property.

ii. Hydrogen Sulfide (H_2S)

H_2S is a colorless gas with the odor of rotten eggs. The most common sources of H_2S emissions are oil and natural gas extraction and processing, and natural emissions from geothermal fields. Industrial sources of H_2S include petrochemical plants and kraft paper mills. H_2S is also formed during bacterial decomposition of human and animal wastes, and is present in emissions from sewage treatment facilities and landfills.[3] Exposure to H_2S can induce tearing of the eyes and symptoms related to overstimulation of the sense of smell, including headache, nausea, or vomiting; additional health effects of eye irritation have only been reported with exposures greater than 50 parts per million (ppm), which is considerably higher than the odor threshold.[4] H_2S is regulated as a nuisance based on its odor detection level; if the standard were based on adverse health effects, it would be set at a much higher level.[5]

iii. Visibility Reducing Particles

Visibility-reducing particles come from a variety of natural and manmade sources and can vary greatly in shape, size and chemical composition. Visibility reduction is caused by the absorption and scattering of light by the particles in the atmosphere before it reaches the observer. Certain visibility-reducing particles are directly emitted to the air, such as windblown dust and soot, while others are formed in the atmosphere through chemical transformations of gaseous pollutants (e.g., SO_4^{2-}, nitrates, organic carbon particles) which are the major constituents of particulate matter. As the number of visibility-reducing particles increases, more light is absorbed and scattered, resulting in less clarity, color, and visual range.[6] Exposure to some haze-causing pollutants have been linked to adverse health impacts similar to PM_{10} and $PM_{2.5,}$ as discussed above.[7]

iv. Vinyl Chloride

Vinyl chloride is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products and is generally emitted from industrial processes. Other major sources of vinyl chloride have been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.[8] Short-term health of effects of exposure to high levels of vinyl chloride in the air include central nervous system effects, such as dizziness, drowsiness, and headaches while long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage and has been shown to increase the risk of angiosarcoma, a rare form of liver cancer in humans.[9] Most health data on vinyl chloride relate to carcinogenicity; thus, the people most at risk are those who have long-term exposure to elevated levels, which is more likely to occur in occupational or industrial settings; however, control methodologies applied to industrial facilities generally prevent emissions to the ambient air.[10]

CARB, *Hydrogen Sulfide & Health*, https://ww2.arb.ca.gov/resources/hydrogen-sulfide-and-health, accessed July 12, 2022.

[4]*Ibid*.

[5]*Ibid*.

[6]CARB, *Visibility-Reducing Particles & Health*, https://www.arb.ca.gov/research/aaqs/common-pollutants/vrp/vrp.htm, accessed July 12, 2022.

[7]*Ibid*.

[8]CARB, *Vinyl Chloride & Health*, https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health, accessed July 12, 2022.

[9]*Ibid*.

[10]*Ibid*.

3.1.3.3 Volatile Organic Compounds (VOCs) and Toxic Air Contaminants (TACs)

Although the SCAQMD's primary mandate is attaining the NAAQS and the CAAQS for criteria pollutants within the district, SCAQMD also has a general responsibility to control emissions of air contaminants and prevent endangerment to public health. As a result, the SCAQMD has regulated pollutants other than criteria pollutants such as VOCs, TACs, greenhouse gases, and stratospheric ozone-depleting compounds.

i. Volatile Organic Compounds (VOCs)

VOCs are organic chemical compounds of carbon and are not "criteria" pollutants themselves; however, VOCs are a prime component (along with NO_X) of the photochemical processes by which such criteria pollutants as O_3, nitrogen dioxide, and certain fine particles are formed. They are therefore regulated as "precursors" to formation of these criteria pollutants. Some are also identified as TACs and have adverse health effects. VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids, internal combustion associated with motor vehicle usage, and consumer products (e.g., architectural coatings, etc.).

ii. Toxic Air Contaminants (TACs)

TACs is a term used to describe airborne pollutants that may be expected to result in an increase in mortality or serious illness or which may pose a present or potential hazard to human health and include both carcinogens and non-carcinogens. The California Air Resources Board (CARB) and the California Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified, or "listed," as a TAC in California. CARB has listed approximately 200 toxic substances, including those identified by the USEPA, which are identified on the California Air Toxics Program's TAC List. TACs are also not classified as "criteria" air pollutants. The greatest potential for TAC emissions during construction is related to diesel particulate matter (DPM) emissions associated with heavy-duty equipment. During long-term operations, sources of DPM may include heavy duty diesel-fueled delivery trucks and stationary emergency generators. The effects of TACs can be diverse and their health impacts tend to be local rather than regional; consequently, ambient air quality standards for these pollutants have not been established, and analysis of health effects is instead based on cancer risk and exposure levels.

3.2 REGULATORY FRAMEWORK

There are several plans, regulations, and programs that include policies, requirements, and guidelines regarding Air Quality at the federal, State, regional, and local levels. As described below, these plans, guidelines, and laws include the following:

- Federal Clean Air Act (CCA)
  - National Ambient Air Quality Standards (NAAQS)
- California Clean Air Act (CCAA)
  - California Ambient Air Quality Standards (CAAQS)
- California Code of Regulations (CCR)
- State Programs for Toxic Air Contaminants
- Diesel Risk Reduction Program

- South Coast Air Quality Management District (SCAQMD)
    - Air Quality Management Plan (AQMP) and RTP/SCS
    - Air Quality Guidance Documents
    - Rules and Regulations
- City of Los Angeles Air Quality Element
- City of Los Angeles Plan for a Healthy LA

3.2.1 Federal

3.2.1.1 Federal Clean Air Act (CAA)

The CAA was enacted in 1970 and has been amended numerous times in subsequent years, with the most recent amendments occurring in 1990.[11] The CAA is the comprehensive federal law that regulates air emissions in order to protect public health and welfare.[12] The USEPA is responsible for the implementation and enforcement of the CAA, which establishes federal NAAQS, specifies future dates for achieving compliance, and requires the USEPA to designate areas as attainment, nonattainment, or maintenance. The CAA also mandates that each state submit and implement a State Implementation Plan (SIP) for each criteria pollutant for which the state has not achieved the applicable NAAQS. The SIP includes pollution control measures that demonstrate how the standards for those pollutants will be met. The sections of the CAA most applicable to land use development projects include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions).[13]

Title I requirements are implemented for the purpose of attaining NAAQS for criteria air pollutants. **Table 3-1**, *Ambient Air Quality Standards*, shows the NAAQS currently in effect for each criteria pollutant. The Air Basin fails to meet national standards for O_3 and $PM_{2.5}$ and, therefore, is considered a federal “non-attainment” area for these pollutants.

Title II pertains to mobile sources, which includes on-road vehicles (e.g., cars, buses, motorcycles) and non-road vehicles (e.g., aircraft, trains, construction equipment). Reformulated gasoline and automobile pollution control devices are examples of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have been strengthened in recent years to improve air quality. For example, the standards for NO_X emissions have been lowered substantially and the specification requirements for cleaner burning gasoline are more stringent.

The NAAQS, and the CAAQS for the California criteria air pollutants (discussed below), have been set at levels considered safe to protect public health, including the health of sensitive populations and to protect public welfare.

[11] 42 United States Code §7401 et seq. (1970).

[12] USEPA, *Summary of the Clean Air Act*, https://www.epa.gov/laws-regulations/summary-clean-air-act, accessed July 12, 2022.

[13] USEPA, *Clean Air Act Overview, Clean Air Act Table of Contents by Title*, https://www.epa.gov/clean-air-act-overview/clean-air-act-text, accessed July 12, 2022.

<table>
<tr><th colspan="6">TABLE 3-1: AMBIENT AIR QUALITY STANDARDS</th></tr>
<tr><th rowspan="2">Pollutant</th><th rowspan="2">Averaging Period</th><th rowspan="2">Federal Standard /a,b/</th><th rowspan="2">California Standard /a,b/</th><th colspan="2">South Coast Air Basin Attainment Status/c/</th></tr>
<tr><th>Federal Standard /d/</th><th>California Standard /d/</th></tr>
<tr><td rowspan="2">Ozone (O_3)</td><td>1-hour</td><td>—</td><td>0.09 ppm (180 µg/m^3)</td><td>—</td><td>Non-Attainment</td></tr>
<tr><td>8-hour</td><td>0.070 ppm (137 µg/m^3)</td><td>0.07 ppm (137 µg/m^3)</td><td>Non-Attainment (Extreme)</td><td>Non-Attainment</td></tr>
<tr><td rowspan="2">Respirable Particulate Matter (PM_{10})</td><td>24-hour</td><td>150 µg/m^3</td><td>50 µg/m^3</td><td rowspan="2">Attainment</td><td rowspan="2">Non-Attainment</td></tr>
<tr><td>Annual</td><td>—</td><td>20 µg/m^3</td></tr>
<tr><td rowspan="2">Fine Particulate Matter ($PM_{2.5}$)</td><td>24-hour</td><td>35 µg/m^3</td><td>—</td><td rowspan="2">Non-Attainment (Serious)</td><td rowspan="2">Non-Attainment</td></tr>
<tr><td>Annual</td><td>12 µg/m^3</td><td>12 µg/m^3</td></tr>
<tr><td rowspan="2">Carbon Monoxide (CO)</td><td>1-hour</td><td>35 ppm (40 mg/m^3)</td><td>20 ppm (23 mg/m^3)</td><td rowspan="2">Attainment</td><td rowspan="2">Attainment</td></tr>
<tr><td>8-hour</td><td>9 ppm (10 mg/m^3)</td><td>9.0 ppm (10 mg/m^3)</td></tr>
<tr><td rowspan="2">Nitrogen Dioxide (NO_2)</td><td>1-hour</td><td>0.10 ppm (188 µg/m^3)</td><td>0.18 ppm (339 µg/m^3)</td><td rowspan="2">Unclassified/ Attainment</td><td rowspan="2">Attainment</td></tr>
<tr><td>Annual</td><td>0.053 ppm (100 µg/m^3)</td><td>0.030 ppm (57 µg/m^3)</td></tr>
<tr><td rowspan="4">Sulfur Dioxide (SO_2)</td><td>1-hour</td><td>0.075 ppm (196 µg/m^3)</td><td>0.25 ppm (655 µg/m^3)</td><td rowspan="4">Unclassified/ Attainment</td><td rowspan="4">Attainment</td></tr>
<tr><td>3-hour</td><td>0.5 ppm (1,300 µg/m^3)</td><td>—</td></tr>
<tr><td>24-hour</td><td>0.14 ppm (365 µg/m^3)</td><td>0.04 ppm (105 µg/m^3)</td></tr>
<tr><td>Annual</td><td>0.03 ppm (80 µg/m^3)</td><td>—</td></tr>
<tr><td rowspan="2">Lead (Pb)</td><td>30-day average</td><td>—</td><td>1.5 µg/m^3</td><td rowspan="2">Partial Non-Attainment /e/</td><td rowspan="2">Attainment</td></tr>
<tr><td>Rolling 3-month average</td><td>0.15 µg/m^3</td><td>—</td></tr>
<tr><td>Sulfates</td><td>24-hour</td><td>—</td><td>25 µg/m^3</td><td>—</td><td>Attainment</td></tr>
<tr><td>Hydrogen Sulfide (H_2S)</td><td>1-hour</td><td>—</td><td>0.03 ppm (42 µg/m^3)</td><td>—</td><td>Unclassified</td></tr>
</table>

Note: ppm = parts per million by volume; µg/m^3 = micrograms per cubic meter
/a/ An ambient air quality standard is a concentration level expressed in either parts per million or micrograms per cubic meter and averaged over a specific time period (e.g., 1 hour). The different averaging times and concentrations are meant to protect against different exposure effects. Some ambient air quality standards are expressed as a concentration that is not to be exceeded. Others are expressed as a concentration that is not to be equaled or exceeded.
/b/ Ambient Air Quality Standards obtained from the CARB and USEPA.
/c/ "Attainment" means that the regulatory agency has determined based on established criteria, that the Air Basin meets the identified standard. "Non-attainment" means that the regulatory agency has determined that the Air Basin does not meet the standard. "Unclassified" means there is insufficient data to designate an area, or designations have yet to be made.
/d/ California and Federal standard attainment status based on = updates from the CARB and USEPA. https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations.
/e/ An attainment re-designation request is pending.
SOURCE: USEPA, *NAAQS Table*, https://www.epa.gov/criteria-air-pollutants/naaqs-table, accessed January 18, 2024;
CARB, *Ambient Air Quality Standards,* May 4, 2016, https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf, accessed January 18, 2024.

3.2.2 State

3.2.2.1 California Clean Air Act (CCAA)

The CCAA, signed into law in 1988, requires all areas of the State to achieve and maintain the CAAQS by the earliest practicable date. CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both State and federal air pollution control programs within California. In this capacity, CARB conducts research, sets the CAAQS, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products, and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. **Table 3-1** includes the CAAQS currently in effect for each of the criteria pollutants, as well as other pollutants recognized by the State. As shown in **Table 3-1**, the CAAQS include more stringent standards than the NAAQS. The Air Basin fails to meet State standards for O_3, PM_{10}, and $PM_{2.5}$ and, therefore, is considered “non-attainment” for these pollutants.

3.2.2.2 California Code of Regulations (CCR)

The CCR is the official compilation and publication of regulations adopted, amended or repealed by the State agencies pursuant to the Administrative Procedure Act. The CCR includes regulations that pertain to air quality emissions. Specifically, Section 2485 in Title 13 of the CCR states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes of any location. In addition, Section 93115 in Title 17 of the CCR states that operation of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emission standards.

3.2.2.3 State Programs for Toxic Air Contaminants

The California Air Toxics Program is an established two-step process of risk identification and risk management to address potential health effects from exposure to toxic substances in the air. In the risk identification step, CARB and OEHHA determine if a substance should be formally identified, or “listed,” as a TAC in California. In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce risk. Based on results of that review, CARB has promulgated a number of Airborne Toxic Control Measures (ATCMs), both for stationary and mobile sources, including On-Road and Off-Road Vehicle Rules. These ATCMs include measures such as limits on heavy-duty diesel motor vehicle idling and emission standards for off-road diesel construction equipment in order to reduce public exposure to DPM and other TACs.

These actions are also supplemented by the Assembly Bill (AB) 2588 Air Toxics “Hot Spots” program and Senate Bill (SB) 1731, which require facilities to report their air toxics emissions, assess health risks, notify nearby residents and workers of significant risks if present, and reduce their risk through implementation of a risk management plan. SCAQMD has further adopted two rules to limit cancer and non-cancer health risks from facilities located within its jurisdiction. Rule 1401 (New Source Review of Toxic Air Contaminants) regulates new or modified facilities, and Rule 1402 (Control of Toxic Air Contaminants from Existing Sources) regulates facilities that are already operating. Rule 1402 incorporates requirements of the AB 2588 program, including implementation of risk reduction plans for significant risk facilities.

3.2.2.4 Diesel Risk Reduction Program

CARB identified particulate emissions from diesel-fueled engines as TACs in August 1998. Following the identification process, the CARB was required by law to determine if there is a need for further control, which moved us into the risk management phase of the program. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines* and the *Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines*. The Diesel Advisory Committee approved these documents on September 28, 2000, paving the way for the next step in the regulatory process: the control measure phase. During the control measure phase, specific statewide regulations designed to further reduce DPM emissions from diesel-fueled engines and vehicles have and continue to be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce DPM emissions.

3.2.3 Regional

3.2.3.1 South Coast Air Quality Management District (SCAQMD)

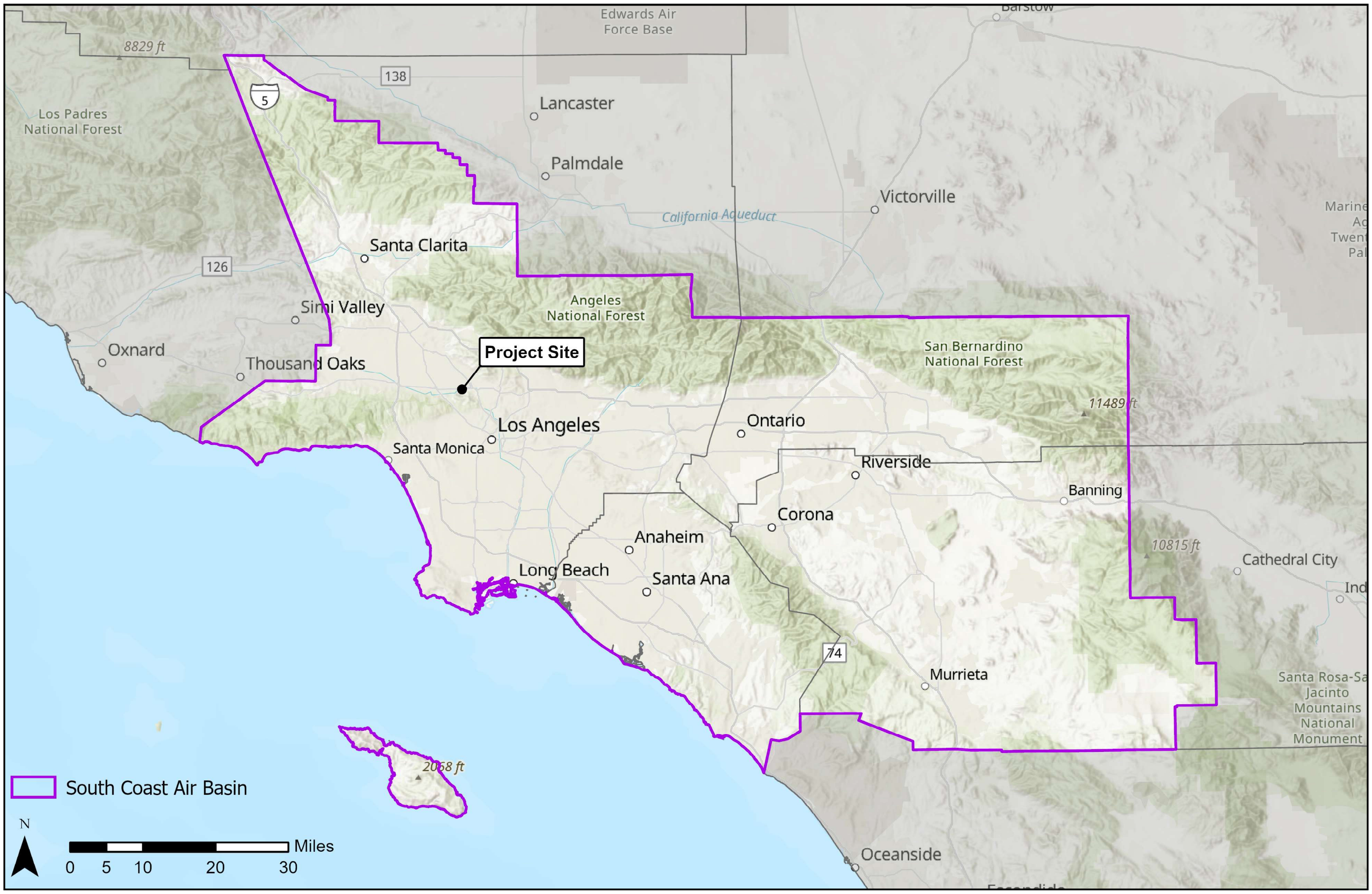
The SCAQMD is primarily responsible for planning, implementing, and enforcing air quality standards for the Air Basin. The Air Basin is a subregion within the western portion of the SCAQMD jurisdiction, as the SCAQMD also regulates portions of the Salton Sea Air Basin and Mojave Desert Air Basin within Riverside County. The Air Basin and proposed project location are shown on **Figure 3-1**.

3.2.3.2 Air Quality Management Plan (AQMP) and Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

To meet the NAAQS and CAAQS, the SCAQMD has adopted a series of AQMPs, which serve as a regional blueprint to develop and implement an emission reduction strategy that will bring the area into attainment with the standards in a timely manner. The 2022 AQMP is focused on attaining the 2015 8-hour O_3 standard of 70 parts per billion. The 2022 AQMP builds upon measures already in place from previous AQMPs and includes a variety of additional strategies such as regulation, accelerated development of available clean technologies, incentives and other CAA measures to achieve this standard. The most significant air quality challenge in the Air Basin is to reduce NO_X emissions15 sufficiently to meet the 2015 O_3 standard which should lead to sufficient NO_X emission reductions. Since NO_X emissions also lead to the formation of $PM_{2.5}$, the NO_X reductions needed to meet the O_3 standards will likewise lead to improvement of $PM_{2.5}$ levels and attainment of $PM_{2.5}$ standards.[14]

SCAQMD's strategy to meet the NAAQS and CAAQS distributes the responsibility for emission reductions across federal, state, and local levels and industries. The 2022 AQMP is composed of stationary and mobile source emission reductions from traditional regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile source strategies, and reductions from federal sources, which include aircraft, locomotives and ocean-going vessels. These strategies are to be implemented in partnership with the CARB and USEPA. The 2022 AQMP also incorporates the transportation strategy and transportation control measures from SCAG's 2020-2045 RTP/SCS Plan. SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG coordinates with various air quality and transportation stakeholders in Southern California to ensure compliance with the federal and state air quality requirements.

[14]SCAQMD, *2022 AQMP*, December 2022.



Source: TAHA, 2022.

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FIGURE 3-1

SOUTH COAST AIR BASIN

Pursuant to California Health and Safety Code Section 40460, SCAG has the responsibility of preparing and approving the portions of the AQMP relating to the regional demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. SCAG is required by law to ensure that transportation activities "conform" to, and are supportive of, the goals of regional and state air quality plans to attain the NAAQS. The RTP/SCS includes transportation programs, measures, and strategies generally designed to reduce vehicle miles traveled (VMT), which are contained in the AQMP. The SCAQMD combines its portion of the AQMP with those prepared by SCAG. The RTP/SCS and Transportation Control Measures, included as Appendix IV-C of the 2022 AQMP, are based on SCAG's 2020-2045 RTP/SCS.[15]

The 2022 AQMP forecasts the 2037 emissions inventories ''with growth'' based on SCAG's 2020-2045 RTP/SCS. The region is projected to see a 12 percent growth in population, 17 percent growth in housing units, 11 percent growth in employment, and 5 percent growth in VMT between 2018 and 2037. Despite regional growth in the past, air quality has improved substantially over the years, primarily due to the effects of air quality control programs at the local, State and federal levels.and emissions reductions. The most recent publication is the 2022 AQMP, which is intended to serve as a regional blueprint for achieving the federal air quality standards and healthful air. The AQMP includes strategies to ensure that attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the air quality standards are not met by the established date.

i. SCAQMD Air Quality Guidance Documents

The SCAQMD published the *CEQA Air Quality Handbook* (approved by the AQMD Governing Board in 1993) to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts.[16] The *CEQA Air Quality Handbook* provides standards, methodologies, and procedures for conducting air quality analyses. However, the SCAQMD is currently in the process of replacing the *CEQA Air Quality Handbook* with the *Air Quality Analysis Guidance Handbook*. While this process is underway, the SCAQMD has provided supplemental guidance on the SCAQMD website.[17]

The SCAQMD has also adopted land use planning guidelines in its *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, which considers impacts to sensitive receptors from facilities that emit TAC emissions.[18] SCAQMD's siting distance recommendations are the same as those provided by CARB (e.g., a 500-foot siting distance for sensitive land uses proposed in proximity to freeways and high-traffic roads, and the same siting criteria for distribution centers and dry cleaning facilities). The SCAQMD's document introduces land use-related policies that rely on design and distance parameters to minimize emissions and lower potential health risk. SCAQMDs guidelines are voluntary initiatives recommended for consideration by local planning agencies.

The SCAQMD has published a guidance document called the *Final Localized Significance Threshold Methodology* for CEQA evaluations that is intended to provide guidance when evaluating the localized effects from mass emissions during construction or operation of a project.[19] The SCAQMD adopted additional guidance regarding $PM_{2.5}$ emissions in a document called *Final Methodology to Calculate Particulate Matter (PM)$_{2.5}$ and $PM_{2.5}$ Significance Thresholds*.[20] The latter document has

[15]SCAG, *2020-2045 RTP/SCS*, May 2020.
[16]SCAQMD, *CEQA Air Quality Handbook*, 1993.
[17]SCAQMD*, Air Quality Analysis Guidance,* http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook#, accessed January 18, 2024.
[18]SCAQMD, *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, 2005.
[19]SCAQMD, *Final Localized Significance Threshold Methodology*, 2008.
[20]SCAQMD, *Final Methodology to Calculate Particulate Matter (PM)$_{2.5}$ and $PM_{2.5}$ Significance Thresholds*, 2006.

been incorporated by the SCAQMD into its CEQA significance thresholds and *Final Localized Significance Threshold Methodology*.

ii. SCAQMD Rules and Regulations

The SCAQMD has adopted several rules and regulations to regulate sources of air pollution in the Air Basin and to help achieve air quality standards for land use development projects, which include, but are not limited to the following:

Regulation IV – Prohibitions: This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events. The following is a list of rules which apply to the proposed project:

- **Rule 401 – Visible Emissions:** This rule states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or of such opacity as to obscure an observer's view.
- **Rule 402 – Nuisance:** This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- **Rule 403 – Fugitive Dust:** This rule requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project property line, restricts the net PM_{10} emissions to less than 50 micrograms per cubic meter (µg/m3) and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Mitigation measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers and/or ceasing all activities. Finally, a contingency plan may be required if determined to be warranted by the USEPA.

Regulation XI – Source Specific Standards: Regulation XI sets emissions standards for specific sources. The following is a list of rules which may apply to the proposed project:

- **Rule 1113 – Architectural Coatings:** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.
- **Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters:** This rule requires manufacturers, distributors, retailers, re-furbishers, installers, and operators of new and existing units to reduce NO_X emissions from natural gas-fired water heaters, boilers, and process heaters as defined in this rule.

Regulation XIII – New Source Review (NSR): Regulation XIII sets requirements for preconstruction review required under both federal and State statutes for new and modified sources located in areas that do not meet the Clean Air Act standards ("non-attainment" areas). NSR applies to both individual permits and entire facilities. Any permit that has a net increase in emissions is required to apply Best Available Control Technology (BACT). Facilities with a net increase in emissions are required to offset the emission increase by use of Emission Reduction Credits (ERCs). The regulation provides for the application, eligibility, registration, use and transfer of ERCs. For low emitting facilities, the SCAQMD maintains an internal bank that can be used to provide the required offsets. In addition, certain facilities are subject to provisions that require public notice and modeling analysis to determine the downwind impact prior to permit issuance.

Regulation XIV – Toxics and Other Non-Criteria Pollutants: Regulation XIV sets requirements for new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants or other non-criteria pollutants. The following is a list of rules which may apply to the Project:

- **Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities:** This rule requires owners and operators of any demolition or renovation activity and the associated disturbance of asbestos-containing materials, any asbestos storage facility, or any active waste disposal site to implement work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials.

3.2.4 Local

3.2.4.1 City of Los Angeles General Plan

i. Air Quality Element

Local jurisdictions, such as the City, have the authority and responsibility to reduce air pollution through their land use decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. In general, the City of Los Angeles' General Plan (including the Framework, Air Quality, Mobility 2035, and Health and Wellness Elements) and the City of Los Angeles' Green New Deal (Sustainable pLAn 2019) contain policies and programs for the protection of the environment and health through improved air quality. These serve to provide additional critical guidance for the betterment of public health for the region and City.

The most directly-related of those plans, the City's General Plan Air Quality Element, was adopted on November 24, 1992, and sets forth the goals, objectives, and policies which guide the City in its implementation of its air quality improvement programs and strategies. A number of these goals, objectives, and policies are relevant to land use development, and relate to traffic mobility, minimizing particulate emissions from construction activities, discouraging single-occupancy vehicle trips, managing traffic congestion during peak hours, and increasing energy efficiency in City facilities and private developments.

The Air Quality Element establishes six goals:

- Good air quality in an environment of continued population growth and healthy economic structure;
- Less reliance on single-occupant vehicles with fewer commute and non-work trips;
- Efficient management of transportation facilities and system infrastructure using cost-effective system management and innovative demand-management techniques;
- Minimal impacts of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation and air quality;
- Energy efficiency through land use and transportation planning, the use of renewable resources and less-polluting fuels and the implementation of conservation measures including passive measures such as site orientation and tree planting; and
- Citizen awareness of the linkages between personal behavior and air pollution and participation in efforts to reduce air pollution.

The City is also responsible for the implementation of transportation control measures as outlined in the AQMP. Through capital improvement programs, the City can fund infrastructure that contributes to improved air quality by requiring such improvements as bus turnouts as appropriate, installation of energy-efficient streetlights, and synchronization of traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation measures.

ii. Plan for a Healthy Los Angeles

The Plan for a Healthy Los Angeles, adopted by the City Council on March 31, 2015, lays the foundation to create healthier communities for all residents in the City. As an element of the General Plan, it provides high-level policy vision, along with measurable objectives and implementation programs, to elevate health as a priority for the City's future growth and development. With a focus on public health and safety, the Plan for a Healthy Los Angeles provides a roadmap for addressing the most basic and essential quality-of-life issues: safe neighborhoods, a clean environment (i.e., improved ambient and indoor air quality), the opportunity to thrive, and access to health services, affordable housing, and healthy and sustainably produced food.

3.3 EXISTING SETTING

3.3.1 Regional Air Quality

The Southern California region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Air Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors, such as wind, sunlight, temperature, humidity, rainfall, and topography, affect the accumulation and dispersion of pollutants throughout the Air Basin, making it an area of high pollution potential.

The greatest air pollution throughout the Air Basin occurs from June through September. This condition is generally attributed to the large amount of pollutant emissions, light winds, and shallow vertical atmospheric mixing. This frequently reduces pollutant dispersion, thus causing elevated air pollution levels. Pollutant concentrations in the Air Basin vary with location, season, and time of day. O_3 concentrations, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Air Basin and adjacent desert. Over the past 30 years, substantial progress has been made in reducing air pollution levels in Southern California. However, the Air Basin still fails to meet the national standards for O_3 and $PM_{2.5}$. In addition, Los Angeles County still fails to meet the national standard for lead.

SCAQMD has released the Multiple Air Toxics Exposure Study (MATES-V). The MATES-V Study was aimed at estimating the cancer risk from toxic air emissions throughout the Air Basin by conducting a comprehensive monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to fully characterize health risks for those living in the Air Basin. The MATES-V Study concluded that the average carcinogenic risk from air pollution in the Air Basin is approximately 455 in one million over a 70-year duration. Mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) represent the greatest contributors. The majority of the risk is attributed to diesel particulate emissions, followed by other toxics associated with mobile sources (including benzene, butadiene, and carbonyls), and then stationary sources (which include large industrial operations, such as refineries and metal processing facilities, as well as smaller businesses, such as gas stations and chrome plating).[21]

As part of the MATES-V Study, SCAQMD prepared a series of maps that shows regional trends in estimated outdoor inhalation cancer risk from toxic emissions, as part of an ongoing effort to provide insight into relative risks. The maps' estimates represent the number of potential cancers per million people associated with a lifetime of breathing air toxics (24 hours per day outdoors for 70 years) in parts of the area. The MATES-V map is the most recently available map to represent existing conditions near the proposed project.

3.3.2 Local Air Quality

Air pollutant emissions are generated in the local vicinity by stationary and area-wide sources, such as commercial and industrial activity, space and water heating, landscape maintenance, consumer products, and mobile sources primarily consisting of automobile traffic. Motor vehicles are the primary source of pollutants in the local vicinity.

3.3.2.1 Existing Pollutant Levels at Nearby Monitoring Stations

SCAQMD maintains a network of air quality monitoring stations located throughout the Air Basin and has divided the Air Basin into 38 source receptor areas (SRAs) in which 31 monitoring stations operate. Each monitoring station measures concentrations of air pollutants that are considered representative of the air quality in the respective SRA. The proposed project is located in SRA 7 (East San Fernando Valley) on the boundary with SRA 1 (Central LA County). The SRA 7 monitoring station was discontinued and taken offline in 2004, and the closest active monitoring station is the SRA 1 Los Angeles-North Main Street (LA-NMS) monitoring station located at 1630 North Main Street in the City of Los Angeles.[22] **Figure 3-1** includes the location of the monitoring station. **Table 3-2** on the ensuing page displays measured pollutant concentrations at the two monitoring stations, the State and federal standards, and the frequency of concentrations recorded above the standards during the three-year period from 2020 to 2022.[23] Neither SCAQMD nor CARB has posted audited and certified air quality data from 2023. The SCAQMD has suspended monitoring of SO_2 and CO at most locations throughout the Air Basin due to continued demonstration of attainment in recent years. As shown in **Table 3-2**, concentrations of O_3, PM_{10}, and $PM_{2.5}$ exceeded applicable standards at various times throughout the most recent three-year period. Particulate matter concentrations are substantially lower along the coastal region than in the urban center of Los Angeles. The concentrations measured at these monitors are consistent with the attainment status designations for the Air Basin.

3.3.2.2 Existing Health Risk in the Surrounding Area

Based on the MATES-V model, the estimated background carcinogenic risk near the proposed project is approximately 489 in one million.[24] The cancer risk is predominantly attributed to sources of diesel particulate matter (e.g., Highway 101).

[21] SCAQMD, *Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES V) Final Report*, August 2021.

[22] CARB, *$PM_{2.5}$ Monitoring Sites in California,* Appendix A, https://www.arb.ca.gov/aqd/pm25/pmfmon.htm, accessed on January 18, 2024.

[23] CARB*, Air Quality Data Statistics, Top 4 Summary,* http://www.arb.ca.gov/adam/topfour/topfour1.php, accessed on January 18, 2024.

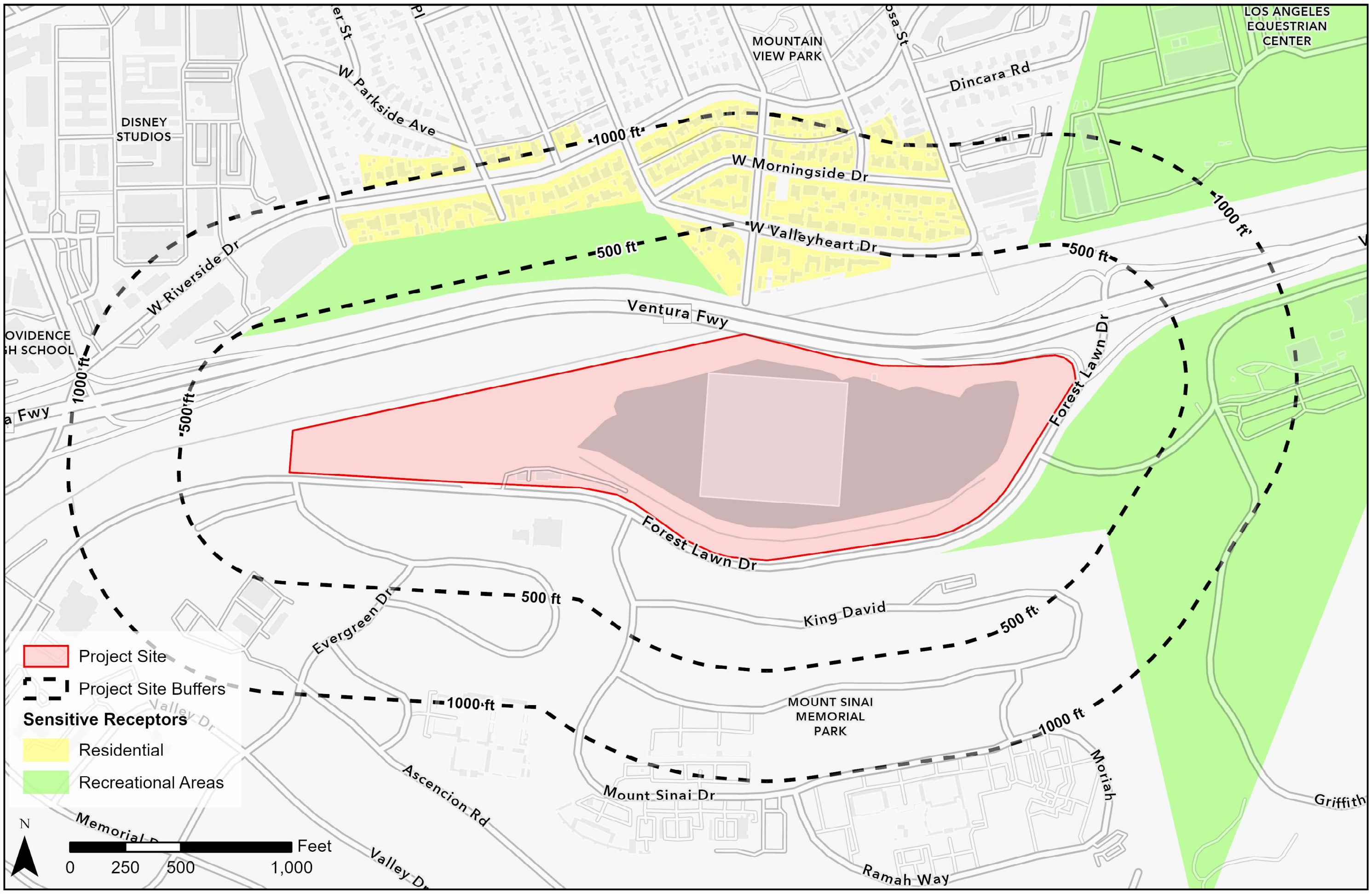
[24] SCAQMD, *Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-V)*, *MATES-V Interactive Carcinogenicity Map*, 2021.

TABLE 3-2: MONITORED AMBIENT AIR QUALITY DATA				
Pollutant	Data Statistics and Air Quality Standards	Maximum Annual Concentrations and Frequencies of Exceeded Standards		
		2020	2021	2022
Ozone (O_3)	Maximum 1-hr Concentration (ppm) Days > 0.09 ppm (State 1-hr standard) Maximum 8-hr Concentration (ppm) Days > 0.070 ppm (State 8-hr standard) Days > 0.070 ppm (National 8-hr standard)	0.185 22 0.118 14 22	0.099 1 0.085 2 2	0.138 1 0.090 6 6
Nitrogen Dioxide (NO_2)	Maximum 1-hr Concentration (ppm) Days > 0.18 ppm (State 1-hr standard) Days > 0.100 ppm (National 1-hr standard)	0.075 0 0	0.078 0 0	0.751 0 0
Carbon Monoxide (CO)	Maximum 1-hr Concentration (ppm) Days > 20.0 ppm (State 1-hr standard) Days > 35 ppm (National 1-hr standard) Maximum 8-hr Concentration (ppm) Days > 9.0 ppm (State 1-hr standard) Days > 9 ppm (National 1-hr standard)	1.9 0 0 1.5 0 0	Not Monitored	Not Monitored
Respirable Particulate Matter (PM_{10})	Maximum 24-hr Concentration (μg/m^3) Days > 50 μg/m^3 (State 24-hr standard) Days > 150 μg/m^3 (Federal 24-hr standard) Annual Concentration (μg/m^3) Exceed State Annual Standard (20 μg/m^3)?	77 24 0 23 Yes	139 17 0 31 Yes	44 0 0 24 Yes
Fine Particulate Matter ($PM_{2.5}$)	Maximum 24-hr Concentration (μg/m^3) Days > 35 μg/m^3 (National 24-hr standard) Annual Concentration (μg/m^3) Exceed State Annual Standard (12 μg/m^3)? Exceed Federal Annual Standard (12.0 μg/m^3)?	47 2 12 Yes Yes	61 13 15 Yes Yes	34 0 11 No No

SOURCE: CARB, *Air Quality Data Statistics*, *Top 4 Summary*, http://www.arb.ca.gov/adam/topfour/topfour1.php, accessed on January 18, 2024.

3.3.3 Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The CARB has identified the following groups who are most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors are land uses where populations that are more susceptible to the adverse effects of air pollution exposure are likely to spend considerable amounts of time. The SCAQMD and CARB guidance recommend that sensitive receptor locations to be taken into consideration include residences, schools, playgrounds, child-care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive receptors, as shown in **Figure 3-2**, include residences located approximately 325 feet to the north and the Los Angeles Equestrian Center located approximately 1,150 feet to the northeast.



Source: TAHA, 2022.

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FIGURE 3-2

SENSITIVE RECEPTORS

Figure 3-2 Sensitive Receptors locations

3.4 PROJECT IMPACTS

This section describes the applicable thresholds of significance and the methodological approach and analyzes potential impacts related to air quality.

3.4.1 Thresholds of Significance

This Assessment was undertaken to determine whether construction or operation of the proposed project would have the potential to result in significant environmental impacts related to air quality in the context of the Appendix G Environmental Checklist criteria of the CEQA Statute and Guidelines. Implementation of the proposed project may result in a significant environmental impact related to air quality if the proposed project would:

[a] Conflict with or obstruct implementation of the applicable air quality plan;

[b] Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard;

[c] Expose sensitive receptors to substantial pollutant concentrations; and/or

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

For this analysis, the Appendix G Thresholds listed above are relied upon. The analysis utilizes factors and considerations identified in the City's *L.A. CEQA Thresholds Guide*, as appropriate, to assist in answering the Appendix G Threshold Questions. The *L.A. CEQA Thresholds Guide* identifies the following factors to evaluate air quality impacts:

(1) Construction

a. Combustion Emissions from Construction Equipment

- Type, number of pieces and daily usage for each type of equipment;
- Estimated fuel usage and type of fuel (diesel, natural gas) for each type of equipment; and
- Emission factors for each type of equipment.

b. Fugitive Dust – Grading, Excavation, and Hauling

- Amount of soil to be disturbed on-site or moved off-site;
- Emission factors for disturbed soil;
- Duration of grading, excavation, and hauling activities;
- Type and number of pieces of equipment to be used; and,
- Projected haul route.

c. Fugitive Dust – Heavy-Duty Equipment Travel on Unpaved Roads

- Length and type of road;
- Type, number of pieces, weight and usage of equipment; and
- Type of soil.

d. Other Mobile Source Emissions

- Number and average length of construction worker trips per day; and
- Duration of construction activities.

(2) Operation

- Operational emissions exceed 10 tons per year of volatile organic gases or any of the daily thresholds presented below (as reproduced from the SCAQMD CEQA Air Quality Handbook):
  - ROG: 55 pounds per day
  - NOX: 55 pounds per day
  - CO: 550 pounds per day
  - PM_{10}: 150 pounds per day
  - SO_X: 150 pounds per day
- Either of the following conditions would occur at an intersection or roadway within one-quarter mile of a sensitive receptor:
  - The proposed project causes or contributes to an exceedance of the California 1-hour or 8-hour CO standards of 20 or nine parts per million (ppm), respectively; or
  - The incremental increase due to the project is equal to or greater than one ppm for the California 1-hour CO standard, or 0.45 ppm for the 8-hour CO standard.
- The project creates an objectionable odor at the nearest sensitive receptor.

(3) Toxic Air Contaminants

The determination of significance shall be made on a case-by-case basis considering the following factors:

- The regulatory framework for the toxic materials(s) and process(es) involved;
- The proximity of the TACs to sensitive receptors;
- The quantity, volume, and toxicity of the contaminants expected to be emitted;
- The likelihood and potential level of exposure; and,
- The degree to which project design will reduce the risk of exposure.

(4) SCAQMD CEQA Air Quality Handbook

To assist in addressing the Appendix G Environmental Checklist Threshold questions and factors identified in the City's *L.A. CEQA Thresholds Guide* for purposes of this analysis, the City of Los Angeles utilizes the thresholds of significance contained in SCAQMD's *CEQA Air Quality Handbook*, as identified below in **Table 3-3**, to assess the significance of the estimated air quality impacts.

TABLE 3-3: SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS		
MASS DAILY THRESHOLDS/a/		
Pollutant	**Construction (lbs./day)/b/**	**Operation (lbs./day)/c/**
Volatile Organic Compounds (VOC)	75	55
Nitrogen Oxides (NO_X)	100	55
Carbon Monoxide (CO)	550	550
Sulfur Oxides (SO_X)	150	150
Particulates (PM_{10})	150	150
Fine Particulates ($PM_{2.5}$)	55	55
Lead (Pb)	3	3
TOXIC AIR CONTAMINANTS (TACS), ODOR, AND GHG THRESHOLDS		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million (1 x 10^{-5}) Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million (1 x 10^{-4}) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS/d/		
NO_2 1-hour average Annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour average Annual arithmetic mean	 10.4 µg/m^3 (construction)/e/ & 2.5 µg/m^3 (operation) 1.0 µg/m^3	
$PM_{2.5}$ 24-hour average	 10.4 µg/m^3 (construction) & 2.5 µg/m^3 (operation)	
SO_2 1-hour average 24-hour average	 0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	 25 µg/m^3 (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day average Rolling 3-month average	 1.5 µg/m^3 (state) 0.15 µg/m^3 (federal)	

Note: lbs./day = pounds per day; ppm = parts per million; µg/m^3 = micrograms per cubic meter
/a/ SCAQMD, *CEQA Handbook* (SCAQMD, 1993).
/b/ Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
/c/ For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
/d/ Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
/e/ Ambient air quality threshold based on SCAQMD Rule 403.
SOURCE: SCAQMD, 2024.

(a) Construction

Based on the criteria set forth in SCAQMD's *CEQA Air Quality Handbook*, the proposed project would have a significant impact if the estimated construction emissions would cause any of the following to occur:[25]

- Emissions from direct and indirect sources would exceed any of the SCAQMD significance threshold levels identified in **Table 3-3**;
- Maximum on-site daily localized emissions exceed the localized significance thresholds (LST), resulting in predicted ambient concentrations in the vicinity of the project site greater than the most stringent ambient air quality standards for CO (20 ppm [23,000 μgm/^{3}] over a 1-hour period or 9.0 ppm [10,350 μg/m^3] averaged over an 8-hour period) and NO_2 (0.18 ppm [338.4 μg/m^3] over a 1-hour period, 0.1 ppm [188 μg/m^3] over a three-year average of the 98th percentile of the daily maximum 1-hour average, or 0.03 ppm [56.4 μg/m^3] averaged over an annual period); and
- Maximum on-site localized PM_{10} or $PM_{2.5}$ emissions during construction exceed the applicable LSTs, resulting in predicted ambient concentrations in the vicinity of the project site to exceed the incremental 24-hour threshold of 10.4 μg/m^3 or 1.0 μg/m^3 PM_{10} averaged over an annual period.

(b) Operation

Based on the criteria set forth in SCAQMD's *CEQA Air Quality Handbook*, the proposed project would have a significant impact if the estimated operational emissions would cause any of the following to occur:[26]

- Emissions from direct and indirect sources would exceed any of the SCAQMD significance threshold levels identified in **Table 3-3**;
- Maximum on-site daily localized emissions exceed the LST, resulting in predicted ambient concentrations in the vicinity of the project site greater than the most stringent ambient air quality standards for CO (20 ppm over a 1-hour period or 9.0 ppm averaged over an 8-hour period) and NO_2 (0.18 ppm over a 1-hour period, 0.1 ppm over a 3-year average of the 98th percentile of the daily maximum 1-hour average, or 0.03 ppm averaged over an annual period);
- Maximum on-site localized operational PM_{10} and $PM_{2.5}$ emissions exceed the incremental 24-hour threshold of 2.5 μg/m^3 or 1.0 μg/m^3 PM_{10} averaged over an annual period;
- The project causes or contributes to an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9.0 ppm, respectively; or
- The project creates an odor nuisance pursuant to SCAQMD Rule 402 (i.e., objectionable odor at the nearest sensitive receptor).

(c) Toxic Air Contaminants

Based on the criteria set forth in SCAQMD's *CEQA Air Quality Handbook*, the proposed project would have a significant TAC impact if:

- The proposed project emits carcinogenic or TACs that exceed the maximum incremental chronic and acute cancer risk as provided in **Table 3-3**.

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[25]SCAQMD, *CEQA Air Quality Handbook*, 1993.
[26]*Ibid.*

In assessing impacts related to TACs in this section, the City will use Appendix G Threshold [c] as the threshold of significance. The criteria identified above from the *L.A. CEQA Thresholds Guide* will be used where applicable and relevant to assist in analyzing the Appendix G thresholds. In addition, the following criteria set forth in SCAQMD's *CEQA Air Quality Handbook* serve as quantitative air quality standards to be used to evaluate project impacts under Appendix G thresholds.

- The proposed project results in the exposure of sensitive receptors to carcinogenic or toxic air contaminants that exceed the maximum incremental cancer risk of 10 per million (1 x 10^{-5}) or an acute or chronic hazard index of 1.0. For projects with a maximum incremental cancer risk between one per million and 10 per million, a project would result in a significant impact if the cancer burden exceeded 0.5 excess cancer cases.

(d) Consistency with Applicable Air Quality Plans

Section 15125 of the State CEQA Guidelines requires an analysis of project consistency with applicable governmental plans and policies. In accordance with SCAQMD's *CEQA Air Quality Handbook*, the following criteria are used to evaluate consistency with SCAQMD's AQMP:

- Criterion 1: Whether the proposed project will:
    1. Result in an increase in the frequency or severity of existing air quality violations;
    2. Cause or contribute to new air quality violations; and/or,
    3. Delay timely attainment of air quality standards or interim emission reductions specified in the AQMP.
- Criterion 2: Whether the proposed project will exceed the assumptions in the AQMP in the horizon year or increments based on the year of project build-out and phase; for residential projects:
    1. Is the proposed project consistent with population, housing, and employment growth projections upon which the AQMP regional emission inventory forecast is based?
    2. Does the proposed project incorporate mitigation measures to reduce potentially significant impacts?
    3. Is the proposed project consistent with AQMP land use policies and control measures?

The proposed project impacts with respect to these criteria are discussed to assess the consistency with the SCAQMD's AQMP. In addition, consistency with the City of Los Angeles General Plan Air Quality Element is also discussed.

(e) Cumulative Impacts

Based on SCAQMD guidance, individual CEQA projects that exceed SCAQMD's recommended daily thresholds for project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants that the Air Basin is currently designated as non-attainment of an air quality standard. As discussed in SCAQMD's *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution*:[27]

> *Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.*

[27] SCAQMD, *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution,* August 2003.

Furthermore,

> *As Lead Agency, the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR… Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.*

In accordance with the cumulative impact assessment approach promulgated by the SCAQMD, the cumulative analysis for considers emissions that would be generated during construction and operation in the context of the CEQA project-specific thresholds of significance presented in **Table 3-3**.

3.4.2 Methodology

This analysis focuses on the potential changes in the air quality environment due to implementation of the proposed project. Air pollutant emissions would result from both construction and operational activities. Specific methodologies used to evaluate these emissions are discussed below.

Although SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate the air quality issues associated with new development projects within the Air Basin. Instead, SCAQMD published the CEQA Air Quality Handbook in November 1993 to assist lead agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects proposed in the Air Basin. The CEQA Air Quality Handbook provides standards, methodologies, and procedures for conducting air quality analyses in EIRs and was used extensively in the preparation of this analysis. SCAQMD is currently in the process of replacing the CEQA Air Quality Handbook with the Air Quality Analysis Guidance Handbook.[28]

In order to assist the CEQA practitioner in conducting an air quality analysis in the interim while the replacement Air Quality Analysis Guidance Handbook is being prepared, supplemental guidance/information is provided on the SCAQMD website and includes:[29] (1) Emission Factors (EMFAC) model on-road vehicle emission factors; (2) background CO concentrations; (3) localized significance thresholds; (4) mitigation measures and control efficiencies; (5) mobile source toxics analysis; (6) off-road mobile source emission factors; (7) $PM_{2.5}$ significance thresholds and calculation methodology; and (8) updated SCAQMD Air Quality Significance Thresholds. SCAQMD also recommends using approved models to calculate emissions from land use projects, such as the California Emissions Estimator Model (CalEEMod). These recommendations were followed in the preparation of this analysis.

SCAQMD has also adopted land use planning guidelines in the *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, May 6, 2005, which considers impacts to sensitive receptors from facilities that emit TAC emissions.[30] SCAQMD's siting distance recommendations are the same as those provided by CARB (e.g., a 500-foot siting distance for sensitive land uses proposed in proximity of freeways and high-traffic roads, and the same siting criteria for distribution centers and dry cleaning facilities). SCAQMD's document introduces land use-related policies that rely on design and distance parameters to minimize emissions and lower

[28]SCAQMD, *Air Quality Analysis Handbook*, www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook, accessed January 18, 2024.

[29]*Ibid*.

[30]SCAQMD*, Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, May 2005.

potential health risk. SCAQMD's guidelines are voluntary initiatives recommended for consideration by local planning agencies.

The assessment of potential impacts to regional and local air quality as a result of proposed project implementation addresses both temporary emissions associated with construction activities as well as long-term operational emissions. Emissions are generally quantified on a daily basis and expressed in terms of pounds per day (lbs./day). Detailed emissions modeling files can be found in the Appendix. Specific methodologies used to evaluate these emissions are discussed below.

Construction

a. Regional Emissions

Daily regional emissions during construction are estimated by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying mobile source and fugitive dust emissions factors. The emissions are estimated using CalEEMod (Version 2022.1.1.21) software, an emissions inventory software program recommended by SCAQMD.[31] The CalEEMod model was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with SCAQMD and received input from other California air districts and is currently used by numerous lead agencies in the Los Angeles area and within the state for quantifying the emissions associated with development projects undergoing environmental review, including by the City of Los Angeles. CalEEMod is based on outputs from Off-Road Emissions Inventory Program model (OFFROAD) and EMission FACtor model (EMFAC), which are emissions estimation models developed by CARB, and used to calculate emissions from construction activities, including off- and on-road vehicles, respectively. CalEEMod also relies upon known emissions data associated with certain activities or equipment (often referred to as "default" data, values or factors) that can be used if site-specific information is not available.[32] CalEEMod contains default values to use in each specific local air district region. Appropriate statewide default values can be used if regional default values are not defined.

The input values used in this analysis were adjusted to be project-specific based on equipment types and the construction schedule. These values were then applied to the construction phasing assumptions used in the criteria pollutant analysis to generate criteria pollutant emissions values for each construction activity. Detailed construction equipment lists, construction scheduling, and emissions calculations are provided in the **Appendix**.

b. Localized Emissions

The localized effects from the on-site portion of daily emissions were evaluated at sensitive receptor locations potentially impacted by the proposed project according to SCAQMD's LST methodology, which uses on-site mass emissions rate look-up tables and project-specific modeling, where appropriate, to assess whether local emissions would exceed SCAQMD's significance thresholds, as described above.[33] SCAQMD provides LSTs applicable to the following criteria pollutants: NO_X, CO, PM_{10}, and $PM_{2.5}$.[34] SCAQMD does not provide an LST for SO_2 since land use development projects typically result in negligible construction and long-term operation emissions of this pollutant. Since VOCs are not a criteria pollutant, there is no ambient standard or SCAQMD LST for VOCs.

[31]CAPCOA, *California Emissions Estimator Model Version 2022.1.1.21 User's Guide*, April 2022.
[32]*Ibid.*
[33]SCAQMD, *Final Localized Significance Threshold Methodology,* July 2008.
[34]SCAQMD*, Final Localized Significance Threshold Methodology: Appendix C – Localized Significance Threshold Screening Tables*, October 2009.

Due to the role VOCs play in O_3 formation, it is classified as a precursor pollutant, and only a regional emissions threshold has been established.

LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each SRA and distance to the nearest sensitive receptor. SCAQMD developed mass rate look-up tables for each source receptor area and to determine whether or not a project may generate significant adverse localized air quality impacts. The appropriate LST values were selected using the SCAQMD guidance document *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*.[35] The proposed project is located in SRA 7 and the maximum active construction area is anticipated to be two acres. As identified above, sensitive receptors are within approximately 165 feet of the proposed project.

c. Emissions Calculations

Construction activities would generate emissions from off-road equipment usage, on-road vehicle travel (truck hauling, vendor deliveries, and workers commuting), architectural coating, and paving. Each of these source types is discussed in more detail below. Construction emissions were calculated using the SCAQMD recommended CalEEMod (Version 2022.1.1.21).

Table 3-5 provides an overview of the sources of air pollutant emissions that are accounted for in CalEEMod during construction. CalEEMod default values were used for equipment and vehicle emission factors, equipment load factors, and vehicle trip lengths. Maximum daily emissions calculated in CalEEMod represent conservative estimates of the worst-case daily emissions in each phase of construction based on continuous equipment activity.

TABLE 3-4: CONSTRUCTION EMISSIONS SOURCES

Phase(s)	Activity	Source(s)	Pollutants
All Phases	Off-Road Equipment Use	Engine Exhaust	VOC, NO_X, CO, SO_X, PM_{10}, $PM_{2.5}$
All Phases	On-Road Vehicle Trips	Engine Exhaust	VOC, NO_X, CO, SO_X, PM_{10}, $PM_{2.5}$
All Phases	On-Road Vehicle Trips	Engine Evaporative Losses	VOC
All Phases	On-Road Vehicle Trips	Brake & Tire Wear	PM_{10}, $PM_{2.5}$
All Phases	On-Road Vehicle Trips	Re-Entrained Road Dust	PM_{10}, $PM_{2.5}$
Site Clearing, Grading	Truck Loading	Fugitive Dust	PM_{10}, $PM_{2.5}$
Site Clearing, Grading	Ground Disturbance	Fugitive Dust (Dozers/Graders)	PM_{10}, $PM_{2.5}$
Building Construction	Architectural Coating	Off-Gassing (Evaporation)	VOC
Building Construction	Paving	Off-Gassing (Evaporation)	VOC

SOURCE: CAPCOA, 2022.

[35] SCAQMD, *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*, 2013.

Construction Equipment Exhaust Emissions

Since the majority of off-road equipment used for construction projects are diesel-fueled, CalEEMod assumes all of the equipment operates on diesel fuel. CalEEMod employs the following equation to estimate daily emissions of VOC, NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$ from diesel-fueled off-road construction equipment exhaust:

$$Emission_{DieselEx}[grams] = \sum_i (EF_i \times Pop_i \times AvgHp_i \times Load_i \times Activity_i)$$

Where:

EF_i	=	Emission factor in grams per horsepower-hour [g/hp-hr.] from OFFROAD2017
Pop_i	=	Population, or number of pieces of equipment
$AvgHP_i$	=	Maximum rated average horsepower [HP]
$Load_i$	=	Load factor (average ratio of actual output to the maximum output, unitless)
$Activity_i$	=	Daily hours of operation
I	=	Equipment type

The OFFROAD model is the statewide emissions inventory for off-road equipment compiled by the CARB; factors from OFFROAD are built into the CalEEMod software based on the project location. CalEEMod provides options for specifying equipment types, horsepower ratings, load factors, and operational hours per day during each activity. Construction equipment inventories were provided by the Applicant for ease phase of construction, and default average equipment horsepower and default load factors derived from the statewide inventory for each type of equipment were relied upon to estimate daily emissions. Daily emissions from construction equipment during each phase were estimated using the equation above and converted from grams to pounds dividing by 453.592 grams per pound.

CalEEMod also estimates fugitive dust emissions associated with construction equipment use in grading activities, demolition debris truck loading, and excavated soil truck loading. As recommended by the SCAQMD, the fugitive dust emissions (PM_{10} and $PM_{2.5}$) from grading and leveling activities are calculating using the methodology described in USEPA AP-42. The CalEEMod software assumes that graders and bulldozers will disturb 0.5 acres per day of ground cover during eight hours of use. Detailed equations used to estimate fugitive dust emissions associated with various equipment types—as well as demolition dust and haul truck loading of debris and excavated soil—can be found in Section 4.3 and Section 4.4 of the technical calculation appendix to the CalEEMod User's Guide.[36]

On-Road Vehicle Trips Mobile Source Emissions

Additionally, construction activities generate air pollutant emissions from on-road vehicle exhaust and evaporative and dust emissions from personal vehicles for worker commuting, vendor deliveries of equipment and materials, and trucks for soil and debris hauling. These emissions are based on the number of trips and the VMT, along with emission factors from EMFAC2020, the CARB on-road mobile source emissions model. CalEEMod estimates running exhaust emissions, running evaporative loss VOC emissions, and PM emissions from tire and brake wear as well as entrained

[36]California Air Pollution Control Officers Association (CAPCOA), *California Emissions Estimator Model (CalEEMod) Version 2022.1.1.21 User's Guide Appendix A Calculation Details for CalEEMod*, April 2022.

road dust. Running exhaust emissions of VOC, NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$ are estimated in CalEEMod using the following equation:

$$Emissions_{Pollutant} = VMT \times EF_{running,pollutant}$$

Where:

$Emissions_{pollutant}$	=	Emissions from vehicle running for each pollutant [grams]
VMT	=	Vehicle miles traveled
$EF_{running,pollutant}$	=	Emission factor for running exhaust emissions in grams per mile [g/mi]

The CalEEMod program contains default trip lengths for workers, vendors, and material hauling based on regional survey data. The EMFAC2020 mobile source emission rates are built into the program as well. Running exhaust is the primary mobile source of VOC, NO_X, CO, and SO_2 emissions associated with vehicle travel. Vehicle trip PM_{10} and $PM_{2.5}$ emissions are predominantly attributed to particulate matter generated by degradation of brakes and tires on the road surface, with running exhaust being a secondary contributor to total mobile source emissions. Detailed equations used for calculating PM_{10} and $PM_{2.5}$ emissions associated with brake and tire wear—as well as re-entrained dust from paved road travel—can be found in the CalEEMod technical appendix.[37]

Architectural Coating Emissions

CalEEMod estimates emissions of VOC off-gassing from the application of architectural surface coatings containing solvents. The CalEEMod program uses the following equation to estimate evaporative emissions during architectural coating activities:

$$Emissions_{VOC}[lbs] = EF_{VOC,coating} \times A_{Paint} \times F$$

Where:

$Emissions_{VOC}$	=	Emissions of VOC in pounds [lbs]
$EF_{VOC\text{-}coating}$	=	Emission factor in pounds VOC per square foot [lbs/sq. ft]
A_{Paint}	=	Building Surface Area [square footage]
F	=	Fraction of surface area [%] CalEEMod Default Values: Interior Surfaces = 75% of Building Surface Area Exterior Shell = 25% of Building Surface Area Parking Surfaces = 6% of Parking Area

CalEEMod assumes the total surface area for painting equals 2.7 times the building floor area square footage for residential uses and twice the building floor area square footage for non-residential uses. Based on preliminary design renderings, it is anticipated that no more than approximately 25 percent of the exterior surface area and 75 percent of the interior surface area will require the application of architectural coatings. A majority of the materials for building construction will arrive with coatings

[37] *Ibid.*

pre-applied. CalEEMod assigns the appropriate surface coating emission factor ($EF_{VOC\text{-}coating}$) to interior and exterior surfaces and parking surfaces. CalEEMod calculates the surface coating emission factor using the following equation:

$$EF_{VOC,coating}\left[{}^{lb}/_{sq.ft}\right] = \frac{C_{VOC}}{453.592\ {}^{g}/_{lb}} \times \frac{3.785\ {}^{L}/_{Gal}}{180\ sq.\ ft}$$

Where:

$EF_{VOC\text{-}coating}$	=	Emission factor in pounds VOC per square foot [lbs./sq-ft]
C_{VOC}	=	VOC content of coating in grams per liter [g/L]; SCAQMD Limit 50 g/L

The emission factors for coating categories are calculated using the equation above based on default VOC content provided by the air districts or CARB's statewide limits. Project-specific VOC contents for architectural coatings can be entered into CalEEMod if included as a design feature. The SCAQMD has a building envelope coating limit of 50 g/L for all new structures within its jurisdiction beginning in 2019. Construction would only utilize building envelope coatings with a VOC content of less than or equal to 50 g/L for all structural applications in accordance with SCAQMD Rule 1113 (Architectural Coatings).

Paving Emissions

CalEEMod estimates VOC off-gassing emissions from asphalt paving of parking lots using the following equation based on the acreage of the parking lot entered on the land use input screen:

$$E_{VOC,paving}\ [lbs] = EF_{paving} \times A_{parking}$$

Where:

$E_{VOC\text{-}paving}$	=	Emissions of VOC in pounds
EF_{paving}	=	Emission factor in pounds per acre [lbs./acre]; Default = 2.62 lbs./acre
$A_{parking}$	=	Area of the parking lot [acres]

Operations

a. Regional Emissions

Analysis of the proposed project impact on regional air quality during long-term operations (i.e., after construction is complete) takes into consideration four types of sources: (1) area; (2) energy; (3) mobile; and (4) stationary. Area source emissions are generated by, among other things, landscape equipment, fireplaces, and the use of consumer products. Energy source emissions are generated as a result of activities in buildings for which natural gas is used (e.g., natural gas for heat or cooking). Mobile source emissions are generated by the increase in motor vehicle trips. Stationary source emissions are generated from proposed emergency generators during routine maintenance/testing.

Criteria pollutants are emitted during the generation of electricity at fossil fuel power plants. When electricity is used in buildings, the electricity generation typically takes place at off-site power plants, the majority of which burn fossil fuels. Because power plants are existing stationary sources permitted by air districts and/or the USEPA, criteria pollutant emissions are generally associated with the power plants themselves and not individual buildings or electricity users. Additionally, criteria pollutant emissions from power plants are subject to local, State, and federal control measures, which can be considered to be the maximum feasible level of mitigation for stack emissions. CalEEMod, therefore, does not calculate criteria pollutant emissions from regional power plants associated with building electricity use.

SCAQMD's CalEEMod model was used to estimate emissions during operation. Mobile-source emissions were calculated using CalEEMod. However, CalEEMod default VMT was bypassed to account for the project-related VMT. CalEEMod calculates mobile-source emissions using the VMT, trip generation, and emission factors based on EMFAC2021.[38] Area source emissions are based on natural gas (building heating and water heaters), landscaping equipment, and consumer product usage (including paints) rates provided in CalEEMod. Natural gas usage factors in CalEEMod are based on the California Energy Commission *California Commercial End Use Survey* data set, which provides energy demand by building type and climate zone.

To determine if a significant air quality impact would occur, the net increase in regional operational emissions was compared against SCAQMD's significance thresholds presented in **Table 3-3**.[39] Refer to the **Appendix** for detailed operational modeling data.

b. Localized Emissions

i) On-Site Emissions

Localized impacts from operations include calculation of on-site emissions (e.g., combustion from natural gas usage) using SCAQMD's recommended CalEEMod and evaluation of these emissions consistent with SCAQMD's LST methodology discussed above.

ii) Off-Site Emissions

Potential localized CO concentrations from induced traffic at nearby intersections are also addressed, consistent with the methodologies and assumptions used in the consistency analysis provided in the 2003 AQMP.[40] It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections.[41,42] Accordingly, vehicle emissions standards have become increasingly more stringent. Before the first vehicle emission regulations, cars in the 1950s were typically emitting about 87 grams of CO per mile.[43] Currently, the CO standard in California is a maximum of 3.4 grams/mile for passenger cars (with provisions for certain cars to emit even less).[44] With the turnover of older vehicles, introduction of cleaner fuels and implementation of control technology on industrial facilities, CO concentrations in the Air Basin have steadily declined.

The analysis prepared for CO attainment in the Air Basin by SCAQMD can be used to assist in evaluating the potential for CO exceedances in the Air Basin. CO attainment was thoroughly analyzed as part of SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan).[45] As discussed in the 1992 CO Plan, peak carbon monoxide

[38]CAPCOA, *California Emissions Estimator Model (CalEEMod) Version 2022.1.1.21 User's Guide Appendix A Calculation Details for CalEEMod*, April 2022.

[39]SCAQMD*, South Coast AQMD Air Quality Significance Thresholds*, April 2019.

[40]SCAQMD, *Air Quality Management Plan*, 2003.

[41]USEPA, *Air Quality Criteria for Carbon Monoxide [EPA 600/P-099/001F]*, 2000.

[42]SCAQMD, *CEQA Air Quality Handbook*, 1993.

[43]USEPA, *Timeline of Major Accomplishments in Transportation, Air Pollution, and Climate Change*, accessed July 12, 2022.

[44]CARB, *California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,* amended September 2010.

[45]SCAQMD, *Federal Attainment Plan for Carbon Monoxide*, 1992.

concentrations in the Air Basin are due to unusual meteorological and topographical conditions, and not due to the impact of particular intersections. Considering the region's unique meteorological conditions and the increasingly stringent CO emissions standards, CO modeling was performed as part of the 1992 CO Plan and subsequent plan updates and air quality management plans.

In the 1992 CO Plan, a CO hot spot analysis was conducted for four busy intersections in Los Angeles at the peak morning and afternoon time periods. The intersections evaluated included: Long Beach Boulevard and Imperial Highway (Lynwood); Wilshire Boulevard and Veteran Avenue (Westwood); Sunset Boulevard and Highland Avenue (Hollywood); and La Cienega Boulevard and Century Boulevard (Inglewood). These analyses did not predict a violation of CO standards. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which had a daily traffic volume of approximately 100,000 vehicles per day. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm, which indicates that the most stringent 1-hour CO standard (20.0 ppm) would likely not be exceeded until the daily traffic at the intersection exceeded more than 400,000 vehicles per day.[46] The AQMP CO hotspots modeling also accounted for worst-case meteorological conditions and background CO concentrations.

The Los Angeles County Metropolitan Transportation Authority (Metro) evaluated the level of service (LOS) in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be Level E at peak morning traffic and Level F at peak afternoon traffic.[47,48] As an initial screening step, if a project intersection does not exceed 400,000 vehicles per day, then the project does not need to prepare a detailed CO hot spot analysis. If a project would potentially result in a CO hotspot based on the initial screening, detailed modeling may be performed using California LINE Source Dispersion Model, version 4 (CALINE4), which is a model used to assess air quality impacts near transportation facilities (i.e., roadways, intersections, street canyons, and parking facilities). Given that fleet-average CO emission rates have decreased substantially since publication of the 2003 AQMP and that growth in the City has not quadrupled traffic volumes, the likelihood of CO hot spots occurring from a single project's contribution to nearby intersection volumes is extremely low.

c. Emissions Calculations

Operations would generate emissions of air pollutants from a variety of sources, including mobile source on-road vehicle trips, and area sources including natural gas combustion from water heaters, landscaping equipment, and the use of consumer products. Periodic re-application of architectural coatings would generate VOC off-gassing emissions on a recurring yet infrequent basis; CalEEMod assumes the re-application rate is once every ten years. CalEEMod estimates emissions from these sources based on the land use type and size, as well as default or project -specific trip generation data. Area source emissions are based on natural gas combustion rates for building heating, water heaters and cooking, landscape equipment fuel combustion, and consumer products usage (including paints) rates built into the CalEEMod program. Natural gas usage factors in CalEEMod are based on the California Energy Commission (CEC) Commercial End Use Survey data set, which provides energy demand by building type and climate zone. The following discussions provide a succinct overview of the operational emissions sources and processes that are accounted for in the CalEEMod program.

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[46] Based on extrapolation of the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).

[47] Metro measured traffic volumes and calculated the LOS for the intersection of Wilshire Boulevard/Sepulveda Avenue, which is a block west along Wilshire Boulevard and east of Interstate 405.

[48] LACMTA, *Congestion Management Plan for Los Angeles County*, 2004.

On-Road Vehicle Trips Mobile Source Emissions

CalEEMod calculates the emissions associated with on-road mobile sources once a project is fully operational. A detailed VMT analysis was completed for the proposed project.[49] The City of has developed screening criteria to identify when a detailed analysis is required for projects. The City's guidelines state that public services (e.g., police, fire stations, public utilities, public parks) do not generally generate substantial VMT. Instead, these land uses are often built-in response to development from other land uses (e.g., office and residential). Therefore, these land uses can be presumed to have less-than-significant impacts on VMT. The proposed project includes a public park and a drinking water treatment facility, which are public services that are presumed to have a less than significant VMT impact. Therefore, these components of the project are screened out from analysis. The WQL, although an LADWP function, would not meet the definition of a public service since it would serve as a laboratory and administrative facility that would generate daily employee trips in excess of the VMT daily threshold. Therefore, the WQL is subject to a VMT analysis. The VMT for the proposed project is anticipated to be 2,133 miles for 172 employees. The net change in VMT is 1,051 miles, which results in a net VMT of 6.11 miles per employee.

The vehicle fleet mix is regionally determined based on the CARB statewide EMFAC emission inventory for on-road vehicle travel. Mobile source emissions (excluding evaporative losses and vehicle-start emissions) from operational vehicle trips are estimated using the following equation for each trip type and the aggregate CARB EMFAC inventory emission factor based on the distribution of vehicle types within the fleet mix:

$$Emission_{exhaust,brake/tire\ wear}[lbs] = \frac{\sum_i \left(EF_i \times Pop_i \times ADT_i \times D_{trip,i}\right)}{453.592\ {}^{g}/_{lb}}$$

Where:

EF_i	=	Vehicle-specific emission factor in grams per mile [g/mi] from EMFAC2014
Pop_i	=	Population, or number of vehicles of each type
ADT_i	=	Average daily trip rate for each vehicle type and trip type
$D_{trip,i}$	=	Trip distance
I	=	Vehicle type

Emissions from motor vehicles are dependent on model years and the specific types of vehicles. The emissions were calculated using a representative motor vehicle fleet mix provided by CalEEMod for a project in the Los Angeles County portion of the Air Basin.

Area Source Emissions

Area source emissions were calculated using CalEEMod default assumptions for the multi-family residential (mid-rise apartments) land uses. Area sources include VOC off-gassing from consumer products use and architectural coatings, as well as emissions from landscape maintenance equipment. Consumer products are chemically formulated products used by household and institutional consumers—such as detergents, cleaning compounds, polishes, floor finishes, personal care products, disinfectants, and sanitizers—but does not include other paint products, furniture coatings, or architectural coatings. The SCAQMD conducted an evaluation of consumer products use as it correlated with the total square footage of buildings using data from the CARB consumer

[49] Translutions, *Headworks-VMT Memorandum*, June 13, 2022.

product emissions inventory and determined a VOC emission rate for consumer products within the SCAQMD jurisdiction.[50]

CalEEMod uses the following equation to calculate daily VOC emissions from consumer products use:

$$E_{VOC,consumer\ products}\,[lbs] = EF_{VOC,consumer\ products}\left[{}^{lbs}/_{sq.ft}\right] \times A_{building}\,[sq.ft]$$

Where:

$E_{VOC,\ consumer\ products}$	=	Emissions of VOC in pounds per day
$EF_{VOC,\ consumer\ products}$	=	Emission factor in pounds per square foot of building area per day SCAQMD Default Value: 2.04 x 10^{-5} lbs./sq. ft/day
$A_{building}$	=	Total square footage (floor area) of all buildings

In addition to consumer products use, CalEEMod estimates daily and annual VOC emissions from operational application of architectural coatings. Operational architectural coating VOC emissions are estimated using the same equation presented above under construction sources assuming an average reapplication rate of once every ten years.

Landscape Equipment

Operational emissions associated with landscape maintenance equipment are also estimated in CalEEMod, which include fuel combustion emissions from equipment such as lawn mowers, roto tillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers. The emissions associated with landscape equipment use were processed using OFFROAD and the CARB *Technical Memo: Change in Population and Activity Factors for Land and Garden Equipment*.[51] The CARB used the results of the inventory-wide emissions processing to derive two landscaping emissions factors: one for commercial landscape equipment in terms of grams per square foot of non-residential building space per day, and a second for residential landscape equipment in terms of grams per dwelling unit per day. These emission factors are multiplied by the number of operational days per year to estimate annual emissions within CalEEMod. Annual operating days are 250 for non-residential projects.

Building Energy Use

The consumption of fossil fuels to generate electricity and to provide heating and hot water generates criteria pollutants. Future fuel consumption rates are estimated based on the specific square footage of the multi-family residences and the ancillary facilities and amenities included in the Project. Energy use (off-site electricity generation and on-site natural gas combustion) for the Project is calculated within CalEEMod using the CEC Commercial End-Use Survey (CEUS) data set.[52] This data set provides energy intensities of different land uses throughout the state and in different climate zones. Since the data contained in the CEUS is from 2002, the CalEEMod software incorporates correction factors to reflect compliance with the Title 24 Building Standards Code. CalEEMod defaults are the 2013 Title 24 energy efficiency standards. The Title 24 energy efficiency standards are updated every three years. All new construction associated with the proposed project will be subject to the

[50] CAPCOA, *CalEEMod User's Guide Appendix E Technical Source Documentation*, April 2022.
[51] CARB, *OFFROAD Modeling Change Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment*, revised June 2003.
[52] CEC*, Commercial End-Use Survey*.

requirements of the 2022 Title 24 energy efficiency standards, which went into effect in January 2023. Therefore, electricity and natural gas consumption estimated using CalEEMod represent conservative approximations of future operational building energy use.

In addition, the facility would also be designed to meet Mayor Garcetti's Resilience by Design Directive by obtaining LEED gold certification, with the objective to achieve LEED Platinum certification and Envision Sustainable Infrastructure certification. The proposed project would also feature on-site renewable energy facilities through the installation of photovoltaic solar panels. The facility would also include a green roof, which would be covered with vegetation to reduce heat and associated energy use.

Toxic Air Contaminants – Construction & Operations

Potential TAC impacts are initially evaluated by conducting a qualitative analysis consistent with the CARB Handbook and SCAQMD guidance, both of which are discussed in detail below. The qualitative analysis consists of reviewing the proposed project to identify any new or modified TAC emissions sources and evaluating the potential for such sources to cause significant TAC impacts. If the qualitative evaluation determines the potential for significant impacts from a new TAC source, or modification of an existing TAC emissions source, a more detailed dispersion analysis is conducted to evaluate estimated TAC emissions against the applicable SCAQMD significance thresholds based on downwind sensitive receptor locations.

a. State Guidance

CARB published the *Air Quality and Land Use Handbook* (CARB Handbook) on April 28, 2005, to serve as a general guide for considering health effects associated with siting sensitive receptors proximate to sources of TAC emissions.[53] The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); and (3) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene and within 500 feet of operations with two or more machines.

CARB published a supplemental technical advisory entitled *Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways* as a follow-up to the *Handbook*. It is intended to provide planners and other stakeholders involved in land use planning and decision-making with information on scientifically based strategies (e.g., solid barriers, vegetation buffers for pollutant dispersion, and indoor high efficiency filtration) to reduce exposure to traffic emissions near high-volume roadways in order to protect public health and promote equity and environmental justice.

b. Regional Guidance

SCAQMD has also adopted land use planning guidelines in the *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, which considers impacts to sensitive receptors from facilities that emit TAC emissions.[54] SCAQMD's siting distance recommendations are the same as those provided by CARB (e.g., a 500-foot siting distance for sensitive land uses

[53]CARB, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005.
[54]SCAQMD, *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, May 2005.

proposed in proximity of freeways and high-traffic roads, and the same siting criteria for distribution centers and dry cleaning facilities). SCAQMD's document introduces land use-related policies that rely on design and distance parameters to minimize emissions and lower potential health risk. SCAQMD's guidelines are voluntary initiatives recommended for consideration by local planning agencies.

SCAQMD has adopted two rules to limit cancer and non-cancer health risks from facilities located within its jurisdiction. Rule 1401 (New Source Review of Toxic Air Contaminants) regulates new or modified facilities, and Rule 1402 (Control of Toxic Air Contaminants from Existing Sources) regulates facilities that are already operating. Rule 1402 incorporates requirements of the AB 2588 program, including implementation of risk reduction plans for significant risk facilities. Significant risk facilities are those facilities which have an increased cancer risk exceeding 10 in 1 million or a total hazard index exceeding 1.0. Examples include landfills, paint booths, refineries and oil production facilities, among others.

3.4.3 Analysis of Project Impacts

[a] Would the proposed project conflict with or obstruct implementation of the applicable air quality plan? (*Less-Than-Significant Impact*)

Impact Analysis

A. <u>SCAQMD CEQA Air Quality Handbook Policy Analysis</u>

The following analysis addresses consistency with applicable SCAQMD and SCAG policies, inclusive of regulatory compliance. In accordance with the procedures established in SCAQMD's *CEQA Air Quality Handbook*, the impact discussion addresses the following criteria to determine whether the proposed project is consistent with applicable SCAQMD and SCAG planning objectives:

1) Would the proposed project create any impacts related to air quality violations, such as:
   - An increase in the frequency or severity of existing air quality violations;
   - Causing or contributing to new air quality violations; or,
   - Delaying timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
2) Would the proposed project exceed the assumptions utilized in preparing the AQMP:
   - Is the proposed project consistent with the population and employment growth projections upon which AQMP forecasted emission levels are based;
   - Does the proposed project incorporate mitigation measures to reduce potentially significant impacts; and/or
   - To what extent is proposed project development consistent with the AQMP land use policies and control measures?

Air quality violations occur when facilities are out of compliance with applicable SCAQMD rule requirements, permit conditions or legal requirements, or with applicable state or federal air pollution regulations. The regional and localized air quality significance thresholds were designed as a screening tool to avoid the potential occurrence and exacerbation of air quality violations resulting from construction and operation of individual CEQA projects based on the designation of emissions sources warranting advanced permitting and regulation. The second indicator of AQMP consistency is assessed by determining potential effects of permanent facility operations on population, housing, and employment assumptions that were used in the development of the AQMP and the RTP/SCS. If implementation of the proposed project would render the assumptions invalid by introducing growth within the SCAQMD jurisdiction that exceeds projections incorporated into the AQMP, a significant air quality impact may occur.

I. Criterion 1

With respect to the first criterion, as discussed under the analysis for **Threshold [c]**, below, localized emissions of NO_X (as a surrogate for NO_2), CO, PM_{10}, and $PM_{2.5}$ have been analyzed for the proposed project. SO_2 emissions would be negligible during construction and long-term operations and, therefore, would not have the potential to cause or affect a violation of the SO_2 ambient air quality standard. Since VOCs are not a criteria pollutant, there is no ambient standard or localized threshold for VOCs. Due to the role VOCs play in O_3 formation, it is classified as a precursor pollutant and only a regional emissions threshold has been established.

a) Construction

The SCAQMD localized emissions analysis serves as a screening method for evaluating whether further assessment of potential air quality violations is warranted. As shown in **Table 3-5**, the increases in PM_{10} and $PM_{2.5}$ emissions during construction would not exceed the SCAQMD-recommended LST values corresponding to the daily disturbance area and proximity of sensitive receptors. Additionally, the maximum potential daily NO_X and CO emissions during construction were analyzed to ascertain potential effects on localized concentrations and to determine if there is a potential for such emissions to cause or affect a violation of an applicable ambient air quality standard. Localized unmitigated emissions of NO_X and CO would not exceed the SCAQMD-recommended localized significance thresholds. Therefore, construction activities would not result in a significant impact with regard to localized air quality.

b) Operations

Because the proposed project would not introduce any substantial stationary sources of emissions (e.g., gasoline stations, dry cleaners, chrome plating operations), CO is the preferred benchmark pollutant for assessing local area air quality impacts from postconstruction motor vehicle operations. As indicated below, under the analysis for **Threshold [c]**, no intersections would require a CO hotspot analysis, and impacts would be less than significant. Therefore, the proposed project would not increase the frequency or severity of an existing CO violation or cause or contribute to new CO violations.

II. Criterion 2

To determine consistency with the 2022 AQMP growth assumptions, the projections in the 2022 AQMP for achieving air quality goals are based on assumptions in SCAG's 2020-2045 RTP/SCS regarding population, housing, and growth trends. The emphasis of this criterion is to ensure that the analyses conducted for the Project are based on the same forecasts as the AQMP. The 2020-2045 RTP/SCS includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA. For this Project, the City of Los Angeles Land Use Plan defines the assumptions that are represented in the AQMP,

- Is the proposed project consistent with the population and employment growth projections upon which AQMP forecasted emission levels are based?

A Project is consistent with the AQMP, in part, if it is consistent with the population, housing, and employment assumptions that were used in the development of the AQMP. In the case of the 2022

AQMP, two sources of data form the basis for projections of air pollutant emissions: the City's General Plan and SCAG's 2020-2045 RTP/SCS.

a) Construction

Construction of the proposed project would result in increased employment opportunities in the construction industry. However, it is not likely that construction workers would relocate their households as a result of their employment associated with construction. The construction industry differs from other employment sectors in that many construction workers are highly specialized and move from job site to job site as dictated by the demand for their skills, and they remain at a job site for only the timeframe in which their specific skills are needed to complete a particular phase of the construction process. Furthermore, it is likely that the construction workers employed for construction would be taken from the labor pool currently residing in the City. Thus, the construction phase of the proposed project would be temporary and would not create permanent growth in population, housing, or employment within the City or within SCAQMD jurisdiction. Therefore, construction of the proposed project would have no impact on regional growth projections accounted for in SCAQMD and SCAG plans.

b) Operations

The proposed project would not include housing resulting in a new population. The purpose of the WQL is to replace the existing obsolete LADWP laboratory facility. to 6 p.m. On weekdays, 172 personnel would report to the facility in staggered shifts. Of this total, 67 personnel would be transferred from the existing laboratory building in Pasadena and the Rinaldi Yard in Granada Hills, where the water quality mobile laboratory and support trailers are currently located. A total of approximately five personnel would be present on weekday at the DPR facility. The number of employees would be small compared to the City of Los Angeles subregion employment. There is no potential for the proposed project to interfere with employment projections. The proposed project would be consistent with the projections in the AQMP.

- Does the proposed project incorporate mitigation measures to reduce potentially significant impacts?

The proposed project would comply with all applicable regulatory standards (e.g., SCAQMD Rule 403, etc.) as required by SCAQMD, as summarized above. The proposed project also would incorporate project design features to support and promote environmental sustainability. While these features are designed primarily to reduce GHG emissions, they would also serve to reduce the criteria air pollutants.

- To what extent is proposed project development consistent with the AQMP land use policies and control measures?

Connect SoCal builds upon and expands land use and transportation strategies established over several prior planning cycles to increase mobility options and achieve a more sustainable growth pattern. *Connect SoCal* includes strategies and tools consistent with local jurisdictions' land use policies that incorporate best practices for achieving the state-mandated reductions in pollutant emissions at the regional level through reduced VMT. The proposed project would be consistent with the following land use strategies that were developed to support the SCS:

- Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations.
- Focus on a regional jobs/housing balance to reduce commute times and distances.
- Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods.

B. City of Los Angeles Policy Analysis

As discussed above, the Air Quality Element of the City's General Plan was adopted on November 24, 1992, and sets forth the goals, objectives, and policies, which guide the City in the implementation of its air quality improvement programs and strategies. The Air Quality Element acknowledges the interrelationships among transportation and land use planning in meeting the City's mobility and air quality goals. To achieve the goals of the Air Quality Element, performance-based standards have been adopted to provide flexibility in implementation of its policies and objectives. The proposed project would promote the City of Los Angeles General Plan Air Quality Element goals, objectives and policies discussed above in the regulatory framework. The proposed project represents an infill development project within an existing urbanized area that would concentrate multiple LADWP facilities in one location. The proposed project would also provide active transportation options. Surrounding the reservoir garden and extending into other portions of the HWSG property would be a series of pedestrian, bicycle, and equestrian pathways, including the Headworks segment of the Los Angeles River Trail, which would interconnect with Griffith Park and the existing river trail system via tunnels beneath Forest Lawn Drive and State Route 134 at the east end of the HWSG property.

The proposed project would be designed and constructed to meet 2022 Title 24 standards. The facility would also be designed to meet Mayor Garcetti's Resilience by Design Directive by obtaining LEED gold certification, with the objective to achieve LEED Platinum certification and Envision Sustainable Infrastructure certification. The facility would also include a green roof, which would be covered with vegetation to reduce heat and capture stormwater. The facility would have a photovoltaic array on the roof tops of the building. It would also include an internal landscaped courtyard and green roof to conserve water through stormwater capture and treatment. The building would achieve energy efficiency by implementing strategies including building orientation, high-performance building envelope, and effective daylighting complemented by high performance lighting and high efficiency HVAC systems. The proposed project is consistent with applicable policies of the City of Los Angeles Air Quality Element.

C. Conclusion

In conclusion, analysis of **Threshold [a]** was based on consistency with the AQMP, as well as the City of Los Angeles plans and policies. The determination of AQMP consistency is primarily concerned with the long-term influence of the proposed project on air quality in the Air Basin. As discussed above, the proposed project would not increase the frequency or severity of an existing air quality violation or cause or contribute to new violations for these pollutants. As the proposed project would not exceed any of the State and federal standards, the proposed project would also not delay the timely attainment of air quality standards or interim emission reductions specified in the AQMP. In addition, because the proposed project is consistent with growth projections that form the basis of the 2022 AQMP, the proposed project would be consistent with the emissions forecasts in the AQMP. Furthermore, while the proposed project does not implement any air quality mitigation measures, the proposed project would comply with all applicable regulatory standards and would incorporate the project design features that would serve to reduce the criteria air pollutants discussed herein. Thus, the proposed project would not conflict with or obstruct implementation of the AQMP. With regard to City policies, as discussed above, the proposed project would serve to implement applicable policies of the City pertaining to air quality. Based on the above, impacts to **Threshold [a]** would be less than significant.

Mitigation Measures

Impacts would be less than significant; no mitigation measures are required.

[b] Would the proposed project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard? (*Less-Than-Significant Impact*)

Impact Analysis

The Los Angeles County portion of the Air Basin is presently designated as nonattainment of either the federal or state ambient air quality standards for O_3, PM_{10}, and $PM_{2.5}$. Therefore, there is an ongoing regional cumulative impact associated with these air pollutants. The SCAQMD published guidance addressing the evaluation of potential cumulative impacts for CEQA projects. The SCAQMD asserts that if construction or operation of a project would produce maximum daily emissions exceeding the applicable project-specific thresholds, those emissions would also be considered cumulatively significant. For this reason, the SCAQMD applies the same project-level thresholds to cumulative assessments. Conversely, if construction and operation of a project would not generate emissions of sufficient quantity to exceed any of the applicable mass daily thresholds, then that project and its associated emissions would be considered less than significant in the cumulative context.

A. <u>Regional Analysis</u>

I. Construction

Construction activities have the potential to create air quality impacts through emissions generated using heavy-duty construction equipment and through vehicle trips associated with construction worker commutes and haul and delivery vehicles traveling to and from the proposed project. Fugitive dust emissions would primarily result from site preparation (e.g., excavation and grading) activities. It is mandatory for all construction projects in the Air Basin to comply with SCAQMD Rule 403 for Fugitive Dust. Rule 403 control requirements include measures to prevent the generation of visible dust plumes. Measures include, but are not limited to, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system o, and maintaining effective cover over exposed areas. Compliance with Rule 403 would reduce fugitive $PM_{2.5}$ and PM_{10} emissions associated with construction activities by approximately 61 percent. NO_X emissions would predominantly result from the use of construction equipment and haul truck trips. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions.

The air quality analysis focuses on maximum daily emissions during construction activities. It is unlikely that the maximum number of daily haul truck loads would be required throughout the duration of each activity. Project-specific information was provided describing the schedule of construction activities and the equipment inventory required. Details pertaining to the schedule and equipment can be found in the California Emissions Estimator (CalEEMod, Version 2022.1.1.21) output files in the **Appendix**. The regional analysis in **Table 3-5** identifies the maximum daily emissions that would occur during construction of the proposed project and compares those emissions to the applicable SCAQMD regional mass daily threshold of significance. Daily construction activities would fluctuate throughout the seven-year construction period, and the maximum daily emissions identified in **Table 3-5** that are compared to the regional thresholds do not represent emissions that would be occurring every day of construction. Emissions would not exceed the SCAQMD significance thresholds. Construction activities would therefore result in a less than significant impact to air quality related to the creation or exacerbation of air quality violations within the SCAQMD jurisdiction.

TABLE 3-5: PROPOSED PROJECT CONSTRUCTION EMISSIONS						
Component & Construction Activity	**Maximum Daily Emissions (Pounds Per Day)**					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
PARK – SITE CLEARING						
On-Site Emissions	1.4	13.3	17.5	<0.1	3.9	0.8
Off-Site Emissions	0.3	1.0	4.3	<0.1	1.0	0.2
Total	**1.7**	**14.3**	**21.8**	**<0.1**	**4.9**	**1.0**
PARK – GRADING & UTILITIES						
On-Site Emissions	4.3	38.3	52.9	<0.1	9.5	2.2
Off-Site Emissions	0.5	1.3	8.0	<0.1	1.6	0.4
Total	**4.8**	**39.6**	**60.9**	**<0.1**	**11.1**	**2.6**
PARK – PAVILION & BRIDGES						
On-Site Emissions	2.4	20.2	30.7	<0.1	10.4	1.8
Off-Site Emissions	0.7	1.7	11.5	<0.1	2.3	0.6
Total	**3.1**	**21.9**	**42.3**	**<0.1**	**12.7**	**2.4**
PARK – PAVING & LANDSCAPING						
On-Site Emissions	1.2	10.8	15.7	<0.1	9.7	1.3
Off-Site Emissions	0.4	0.8	5.8	<0.1	1.4	0.3
Total	**1.6**	**11.5**	**21.6**	**<0.1**	**11.1**	**1.7**
WQL – SITE CLEARING						
On-Site Emissions	3.7	32.4	35.5	<0.1	7.8	2.9
Off-Site Emissions	0.1	1.0	2.2	<0.1	0.6	0.2
Total	**3.8**	**33.4**	**37.7**	**<0.1**	**8.5**	**3.0**
PARK – PAVING & LANDSCAPING + WQL – SITE CLEARING						
On-Site Emissions	5.0	43.2	51.3	0.1	17.5	4.2
Off-Site Emissions	0.5	1.8	8.0	<0.1	2.0	0.5
Total	**5.5**	**45.0**	**59.3**	**0.1**	**19.5**	**4.7**
WQL - GRADING						
On-Site Emissions	1.9	16.2	22.2	0.1	5.7	1.0
Off-Site Emissions	0.2	1.1	2.4	<0.1	0.7	0.2
Total	**2.1**	**17.3**	**24.6**	**0.1**	**6.4**	**1.2**
WQL – BUILDING CONSTRUCTION						
On-Site Emissions	0.9	11.2	14.0	<0.1	6.2	0.8
Off-Site Emissions	0.2	0.4	3.4	<0.1	0.8	0.2
Total	**1.1**	**11.6**	**17.4**	**<0.1**	**7.0**	**1.0**
WQL – PAVING & LANDSCAPING						
On-Site Emissions	11.7	16.9	21.7	<0.1	8.1	1.4
Off-Site Emissions	0.5	1.2	8.7	<0.1	2.3	0.6
Total	**12.2**	**18.1**	**30.3**	**<0.1**	**10.3**	**2.0**
DPR DEMO FACILITY – SITE PREPARATION						
On-Site Emissions	1.1	8.2	12.2	<0.1	5.3	0.8
Off-Site Emissions	<0.1	0.1	1.7	<0.1	0.1	<0.1
Total	**1.1**	**8.2**	**13.9**	**<0.1**	**5.4**	**0.8**
DPR DEMO FACILITY – GRADING & FOUNDATION						

TABLE 3-5: PROPOSED PROJECT CONSTRUCTION EMISSIONS						
Component & Construction Activity	**Maximum Daily Emissions (Pounds Per Day)**					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
On-Site Emissions	2.7	21.8	29.9	<0.1	8.8	2.3
Off-Site Emissions	0.1	0.8	1.8	<0.1	0.6	0.2
Total	**2.8**	**22.5**	**31.6**	**<0.1**	**9.4**	**2.5**
DPR DEMO FACILITY – BUILDING CONSTRUCTION						
On-Site Emissions	1.2	12.1	17.6	<0.1	10.6	1.3
Off-Site Emissions	0.3	0.7	4.2	<0.1	1.2	0.3
Total	**1.5**	**12.8**	**21.8**	**<0.1**	**11.8**	**1.6**
DPR DEMO FACILITY – PAVING & LANDSCAPING						
On-Site Emissions	2.5	13.1	17.5	<0.1	9.7	1.3
Off-Site Emissions	0.5	0.7	7.3	<0.1	2.4	0.6
Total	**3.0**	**13.8**	**24.9**	**<0.1**	**12.1**	**1.9**
REGIONAL ANALYSIS						
Maximum Daily Emissions	**12.2**	**45.0**	**59.3**	**0.1**	**19.5**	**4.7**
Regional Significance Threshold	75	100	550	150	150	55
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
LOCALIZED ANALYSIS						
Maximum On-Site Emissions	**-**	**43.2**	**51.3**	**-**	**17.5**	**4.2**
LST Screening Value[/a/]	-	111	1,068	-	21	6
Exceed Threshold?	**-**	**No**	**No**	**-**	**No**	**No**

/a/ LST screening values correspond to a construction site in SRA 7 with a two-acre daily disturbance area and sensitive receptors within 50 meters.
Emissions modeling files can be found in the **Appendix**.
SOURCE: TAHA, 2024.

II. Operations

The proposed project would generate regional operational emissions from vehicle trips, area sources, and energy use. As discussed above, CalEEMod was used to estimate daily operational air pollutant emissions using the project-specific trip and VMT, as well as land use data obtained from the site plans. A detailed VMT analysis was completed for the proposed project.[55] For identification of VMT impacts for a land use project, CEQA requires the identification of impacts based on whether the project conflicts or is inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(1). The City of has developed screening criteria to identify when a detailed analysis is required for projects. The City's guidelines state that public services (e.g., police, fire stations, public utilities, public parks) do not generally generate substantial VMT. Instead, these land uses are often built-in response to development from other land uses (e.g., office and residential). Therefore, these land uses can be presumed to have less-than-significant impacts on VMT. The proposed project includes a public park and a water treatment facility, which are public services that are presumed to have a less than significant VMT impact. Therefore, these components of the project are screened out from analysis. The WQL, although an LADWP function, would not meet the definition of a public service since it would serve as a laboratory and administrative facility that would generate daily employee trips in excess of the VMT daily threshold. Therefore, the WQL is subject to a VMT analysis.

In order to evaluate the VMT per employee for the WQL, the net change per employee was calculated. The proposed project will replace the Pasadena and Rinaldi facilities. For this evaluation, the net VMT for the project was calculated by subtracting the total VMT per employee for the Pasadena and Rinaldi facilities from the VMT for the proposed project. The VMT per employee for employees that are expected to transfer to the WQL from LADWP facilities in downtown Los Angeles were not subtracted because it is anticipated that those positions would be backfilled at the current locations in the future, unlike the positions in Pasadena and Rinaldi. The Pasadena facility is in Traffic Analysis Zone (TAZ) 22121400 of the SCAG RTP Model. The VMT per employee for the TAZ is 16.3 miles per employee. The Rinaldi facility is included in the City of Los Angeles VMT Calculator, which shows a VMT per employee of 14.1 miles per employee. The VMT/Employee for the proposed project site is 12.4 miles/employee based on the VMT Calculator. The total VMT for existing and proposed facilities were calculated by multiplying the VMT per employee for the existing and proposed facilities. The reduction of 62 employees at the Pasadena location will result in a VMT reduction of 1,011 miles, and that of the Rinaldi facility will result in a reduction of 71 miles. The VMT for the proposed project is anticipated to be 2,133 miles for 172 employees. The net change in VMT is 1,051 miles, which results in a net VMT of 6.11 miles per employee. An additional 159 daily VMT would be attributed to the DPR Demonstration Facility, and 120 daily VMT would be attributed to the park use.

Table 3-6 presents the CalEEMod results for operational emissions estimates of the proposed project. Daily emissions of ozone precursors and criteria pollutants would be below the SCAQMD operational thresholds. Operational activities would not result in a new substantial source of air pollutant emissions. Operations would therefore result in a less than significant impact to air quality related to the creation or exacerbation of air quality violations within the SCAQMD jurisdiction.

[55]Translutions, *Headworks-VMT Memorandum*, June 13, 2022.

TABLE 3-6: PROPOSED PROJECT OPERATIONAL EMISSIONS						
Operational Activity	Maximum Daily Emissions (Pounds Per Day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
EMISSIONS ANALYSIS						
Area Sources	4.2	<0.1	5.4	<0.1	<0.1	<0.1
Energy Sources	<0.1	0.7	0.6	<0.1	<0.1	<0.1
Mobile Sources	1.4	0.6	5.7	<0.1	1.0	0.4
IMPACT ANALYSIS						
Maximum Daily Operational Emissions	**5.5**	**1.3**	**11.7**	**<0.1**	**1.1**	**1.2**
Regional Threshold	55	55	550	150	150	55
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Emissions modeling files can be found in the **Appendix**.
SOURCE: TAHA, 2024.

B. Localized Analysis

As previously discussed, SCAQMD recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the proposed project site. The SCAQMD localized thresholds and LST screening values are based on applicable short-term state and federal ambient air quality standards, as well as existing air quality at the time of the LST methodology development. Project-related localized construction impacts are evaluated based on the SCAQMD LST methodology which takes into account ambient pollutant concentrations. Based on SCAQMD guidance, localized emissions from on-site sources that exceed LST screening values would also be cumulatively considerable and could contribute to instances of the air quality standards being exceeded. As shown in **Table 3-5**, above, maximum daily localized emissions during construction activities would remain below the applicable SCAQMD LST screening values without mitigation. Therefore, construction emissions associated with proposed project implementation would not result in cumulatively considerable net increases of nonattainment pollutants at the localized level, and this impact would be less than significant.

Mitigation Measures

Impacts would be less than significant; no mitigation measures are required.

[c] Would the proposed project expose sensitive receptors to substantial pollutant concentrations? (*Less-Than-Significant Impact*)

Impact Analysis

I. Construction

a. On-Site Construction Activities (Criteria Pollutants)

As discussed above in the methodology subsection, the localized construction air quality analysis was conducted using the LST methodology promulgated by the SCAQMD. The SCAQMD published look-up tables with daily mass emissions screening values that correspond to a project's SRA, the area of maximum daily ground disturbance during construction, and the proximity of sensitive receptors to the project site. The LST screening values represent the maximum allowable emissions from a project that are not expected to cause or contribute to ambient air quality standards being exceeded. Maximum daily on-site unmitigated construction emissions were estimated in CalEEMod and are presented in **Table 3-5**, above. Also presented are the applicable LST screening values for a project with maximum daily disturbance of two acres in SRA 7 that is within approximately 165 feet (50 meters) of sensitive receptors. Construction of the proposed project would not result in localized emissions exceeding any applicable SCAQMD LST screening value, even in the unmitigated condition. Therefore, emissions from on-site sources during construction would not have the potential to expose nearby sensitive receptors to substantial pollutant concentrations and this impact would be less than significant.

b. Off-Site Construction Activities (Toxic Air Contaminants)

The greatest potential for TAC emissions during construction would be from diesel particulate emissions associated with heavy equipment operations. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person continuously exposed to concentrations of TACs over a 70-year lifetime will contract cancer based on the use of standard risk assessment methodology. The SCAQMD's CEQA guidance does not require a health risk assessment (HRA) for short-term construction emissions The proposed project would not result in a long-term (i.e., 70-year) source of TAC emissions given the short-term construction schedule of approximately seven years. Although the total construction duration would be seven years, periods of intense emissions from heavy equipment or truck activity would be intermittent and spread across the 43-acre property. Additionally, there are no receptors adjacent to construction activities with the nearest sensitive receptors being residences located approximately 325 feet to the north. It is, therefore, not necessary to evaluate long-term cancer impacts from construction activities, which occur over a relatively short duration. Construction activities, including generation of TACs, would not expose sensitive receptors to substantial pollutant concentrations. Project-related TAC impacts during construction would be less than significant.

II. Operation

a. On-Site Operational Activities (Criteria Pollutants)

Operation of the proposed project would not include any major new sources of air pollution. Emissions estimates for criteria air pollutants from on-site sources are presented in **Table 3-6**, above. Maximum on-site daily operational emissions were calculated using CalEEMod and compared to the applicable SCAQMD LSTs as defined above. Operational emissions of CO and NO_X as well as nonattainment pollutants PM_{10}, and $PM_{2.5}$ would remain below applicable SCAQMD thresholds. Therefore, long-term operations would result in a less than significant impact related to localized pollutant concentrations from on-site sources.

b. Off-Site Operational Activities (CO "Hot Spots" Analysis)

Consistent with the CO methodology presented above, if a subject intersection does not exceed 400,000 vehicles per day, then the project does not need to prepare a detailed CO hot spot analysis. There are no intersections near the proposed project that have volumes that exceed 400,000 vehicles per day. In addition, CO background concentrations within the vicinity of the modeled intersection have substantially decreased since preparation of the 2003 AQMP primarily due to ongoing fleet turnover of older light duty vehicles and production of higher fuel efficiency vehicles. Therefore, the proposed project does not trigger the need for a detailed CO hot spots analysis and would not have the potential to result in elevated CO concentrations at intersections near the proposed project. Off-site mobile source emissions would not exposure sensitive receptors to substantial pollutant concentrations, and this impact would be less than significant.

c. Toxic Air Contaminants

When considering potential air quality impacts under CEQA, consideration is given to the location of sensitive receptors within close proximity of land uses that emit TACs. CARB has published and adopted the *Air Quality and Land Use Handbook: A Community Health Perspective*, which provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). SCAQMD adopted similar recommendations in its *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*. Together, CARB and SCAQMD guidelines recommend siting distances for both the development of sensitive land uses in proximity to TAC sources and the addition of new TAC sources in proximity to existing sensitive land uses. Sensitive land uses include those where users or occupants could be subject to chronic exposure if sited near TAC sources, such as schools, convalescent facilities, and hospitals. The proposed project does not include the development of sensitive land uses. As such, an assessment of siting distances from potential TAC sources is not required.

The primary source of potential air toxics associated with operations include DPM from delivery trucks (e.g., truck traffic on local streets and idling on adjacent streets) and, to a lesser extent, facility operations. However, these activities, and the land uses associated with the proposed project, are not considered land uses that generate substantial TAC emissions. It The SCAQMD recommends that HRAs be conducted for substantial individual sources of DPM (e.g., truck stops and warehouse distribution facilities that generate more than 100 trucks per or more than 40 trucks with operating transport refrigeration units) and has provided guidance for analyzing mobile source diesel emissions. The proposed project would not include these types of land uses and is not considered to be a substantial source of DPM since daily trucks would not exceed 100 trucks per day or more than 100 trucks per or more than 40 trucks with operating transport refrigeration units. In addition, the CARB-mandated ATCM limits diesel-fueled commercial vehicles (delivery trucks) to idle no more than five minutes at any given time, which would further limit diesel particulate emissions.

Typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes (e.g., chrome plating, electrical manufacturing, petroleum refinery). The proposed project would not include these types of potential industrial manufacturing process sources. It is expected that the quantities of hazardous TACs generated on-site (e.g., cleaning solvents, paints, landscape pesticides, etc.) for the types of proposed land uses would be below thresholds warranting further study under the California Accidental Release Program. As such, the proposed project would not release substantial amounts of TACs, and impacts on human health would be less than significant.

In addition, the proposed project would only result in minimal emissions of TACs from the use of consumer products and landscape maintenance activities, among other things. As a result, toxic or carcinogenic air pollutants are not expected to occur in any meaningful amounts in conjunction with operation of the proposed project.

Mitigation Measures

Impacts would be less than significant; no mitigation measures are required.

[d] Would the proposed project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (Less-Than-Significant Impact)

Impact Analysis

I. Construction

A significant impact would occur if construction activities would result in the creation of nuisance odors that would be noxious to a substantial number of people, or visible dust plumes. Potential sources that may produce objectionable odors include equipment exhaust, application of asphalt and architectural coatings, and other interior and exterior finishes. Odors from these sources would be localized and generally confined to the immediate area surrounding the proposed project and would be temporary in nature and would not persist beyond the termination of construction activities. The proposed project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. All construction activities would be conducted in accordance with the best management practices set forth in SCAQMD Rule 403. In addition, as construction-related emissions dissipate away from the construction area, the odors associated with these emissions would also decrease and would be quickly diluted. Therefore, the proposed project would result in a less-than-significant impact related to construction odors.

II. Operations

According to the SCAQMD *CEQA Air Quality Handbook*, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. The WQL and Headworks Park would not include significant sources of odors. The DPR Demonstration Facility would use recycled wastewater from LAGWRP. Recycled wastewater is not odorous, and the use of such water would not generate odors beyond existing conditions as LADWP currently utilizes the recycled water from LAGWRP primarily to provide irrigation of golf courses, cemeteries, and other sites located in and around Griffith Park, near the project site. Therefore, the proposed project would result in a less-than-significant impact related to operations odors.

Mitigation Measures

Impacts would be less than significant; no mitigation measures are required.

3.6 CUMULATIVE IMPACTS

Impact Analysis

Ambient air quality conditions and pollutant concentrations are generally influenced by the cumulative effect of air pollutant emissions from all sources within a particular region, and attainment dates and control strategies incorporated into air quality plans are contingent upon compliance with regulatory standards and enforcement at the administrative level as well as the facility and project level. The Los Angeles County portion of the Air Basin is presently designated as nonattainment of either the federal or state ambient air quality standards for O_3, PM_{10}, and $PM_{2.5}$. Therefore, there is an ongoing regionally significant cumulative impact associated with these air pollutants as an existing condition prior to implementation of the proposed project. The SCAQMD published guidance addressing the evaluation of potential cumulative impacts for CEQA projects. The SCAQMD asserts that if construction or operation of a project would produce maximum daily emissions exceeding the applicable project-specific thresholds, then those emissions would also be considered cumulatively significant. For this reason, the SCAQMD applies the same project-level thresholds to cumulative assessments. Conversely, if construction and operation of a project would not generate emissions of sufficient quantity to exceed any of the applicable mass daily thresholds, then that project and its associated emissions would be considered less than significant in the cumulative context despite the existing cumulatively significant conditions. Emissions that would be generated by construction and operation of the proposed project are addressed in accordance with the rationale established by the SCAQMD.

I. Construction

Construction of the proposed project would involve temporary emissions sources of air pollutants that include ozone precursors and particulate matter, for which there is an ongoing cumulative impact in the region. **Table 3-5**, above, presents the results of the construction emissions modeling. Construction emissions of ozone precursors VOC and NO_X as well as nonattainment pollutants PM_{10} and $PM_{2.5}$ would remain below applicable SCAQMD thresholds. Therefore, short-term operation of the proposed project would result in a less than significant cumulative impact related to emissions of nonattainment pollutants according to the SCAQMD guidance. Construction emissions would not significantly contribute to the existing cumulatively considerable impact.

II. Operations

Future operation of the proposed project would introduce permanent sources of air pollutants that include ozone precursors and particulate matter, for which there is an ongoing cumulative impact in the region. **Table 3-6**, above, presents the results of the operational emissions modeling. Operational emissions of ozone precursors VOC and NO_X as well as nonattainment pollutants PM_{10} and $PM_{2.5}$ would remain below applicable SCAQMD thresholds. Therefore, long-term operation of the proposed project would result in a less than significant cumulative impact related to emissions of nonattainment pollutants according to the SCAQMD guidance. Operational emissions would not significantly contribute to the existing cumulatively considerable impact.

Mitigation Measures

Impacts would be less-than-significant, and no mitigation measures are required.

Level of Significance After Mitigation

Impacts would be less than significant during both construction and operation of the proposed project.

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APPENDIX

CalEEMod Files

- Headworks Park Construction Detailed Report
- Headworks Water Quality Lab Construction Detailed Report
- Headworks DPR Demonstration Facility Detailed Report
- Headworks Project Operations Detailed Report

LADWP Headworks Project - Park Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LADWP Headworks Project - Park Construction
Construction Start Date	11/14/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	20.2
Location	34.153231832974924, -118.31594338641173
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3974
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
Parking Lot	3.00	Acre	3.00	0.00	13,000	13,000	—	Parking lot and paved access roads.

City Park	17.5	Acre	17.5	0.00	387,830	387,830	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-4*	Use Local and Sustainable Building Materials

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	39.4	60.8	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	11,049	11,049	0.46	0.25	10.5	11,136
Mit.	4.79	39.4	60.8	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	11,049	11,049	0.46	0.25	10.5	11,136
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	39.5	59.7	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	10,970	10,970	0.46	0.25	0.27	11,050
Mit.	4.79	39.5	59.7	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	10,970	10,970	0.46	0.25	0.27	11,050
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	2.52	18.8	32.6	0.05	0.78	7.60	8.38	0.72	0.97	1.69	—	6,339	6,339	0.27	0.17	3.00	6,400
Mit.	2.52	18.8	32.6	0.05	0.78	7.60	8.38	0.72	0.97	1.69	—	6,339	6,339	0.27	0.17	3.00	6,400
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.46	3.44	5.96	0.01	0.14	1.39	1.53	0.13	0.18	0.31	—	1,049	1,049	0.04	0.03	0.50	1,060
Mit.	0.46	3.44	5.96	0.01	0.14	1.39	1.53	0.13	0.18	0.31	—	1,049	1,049	0.04	0.03	0.50	1,060
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.79	39.4	60.8	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	11,049	11,049	0.46	0.25	10.5	11,136

2026	1.59	11.5	22.3	0.03	0.45	10.6	11.1	0.41	1.26	1.66	—	4,222	4,222	0.18	0.14	5.76	4,273
2027	1.52	10.8	21.8	0.03	0.40	10.6	11.0	0.36	1.26	1.62	—	4,187	4,187	0.18	0.13	5.24	4,237
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.67	14.2	21.8	0.03	0.47	4.38	4.86	0.44	0.57	1.01	—	4,351	4,351	0.19	0.14	0.13	4,396
2025	4.79	39.5	59.7	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	10,970	10,970	0.46	0.25	0.27	11,050
2026	2.87	20.1	39.9	0.05	0.83	11.7	12.5	0.76	1.49	2.25	—	8,098	8,098	0.34	0.25	0.25	8,181
2027	1.51	11.0	20.9	0.03	0.40	10.6	11.0	0.36	1.26	1.62	—	4,119	4,119	0.14	0.13	0.14	4,162
2028	1.45	10.4	20.6	0.03	0.35	10.6	11.0	0.32	1.26	1.58	—	4,087	4,087	0.13	0.13	0.12	4,130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.16	1.34	2.07	< 0.005	0.04	0.39	0.44	0.04	0.05	0.09	—	410	410	0.02	0.01	0.20	414
2025	2.52	18.8	32.6	0.05	0.78	7.60	8.38	0.72	0.97	1.69	—	6,339	6,339	0.27	0.17	3.00	6,400
2026	1.15	8.40	15.7	0.02	0.32	7.23	7.56	0.30	0.86	1.16	—	3,033	3,033	0.13	0.10	1.80	3,068
2027	1.08	7.82	15.1	0.02	0.28	7.22	7.50	0.26	0.86	1.12	—	2,955	2,955	0.10	0.10	1.61	2,988
2028	0.13	0.96	1.92	< 0.005	0.03	0.93	0.96	0.03	0.11	0.14	—	378	378	0.01	0.01	0.19	382
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.03	0.24	0.38	< 0.005	0.01	0.07	0.08	0.01	0.01	0.02	—	67.9	67.9	< 0.005	< 0.005	0.03	68.6
2025	0.46	3.44	5.96	0.01	0.14	1.39	1.53	0.13	0.18	0.31	—	1,049	1,049	0.04	0.03	0.50	1,060
2026	0.21	1.53	2.87	< 0.005	0.06	1.32	1.38	0.05	0.16	0.21	—	502	502	0.02	0.02	0.30	508
2027	0.20	1.43	2.76	< 0.005	0.05	1.32	1.37	0.05	0.16	0.20	—	489	489	0.02	0.02	0.27	495
2028	0.02	0.17	0.35	< 0.005	0.01	0.17	0.18	0.01	0.02	0.03	—	62.5	62.5	< 0.005	< 0.005	0.03	63.2

2.3. Construction Emissions by Year, Mitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.79	39.4	60.8	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	11,049	11,049	0.46	0.25	10.5	11,136
2026	1.59	11.5	22.3	0.03	0.45	10.6	11.1	0.41	1.26	1.66	—	4,222	4,222	0.18	0.14	5.76	4,273
2027	1.52	10.8	21.8	0.03	0.40	10.6	11.0	0.36	1.26	1.62	—	4,187	4,187	0.18	0.13	5.24	4,237
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.67	14.2	21.8	0.03	0.47	4.38	4.86	0.44	0.57	1.01	—	4,351	4,351	0.19	0.14	0.13	4,396
2025	4.79	39.5	59.7	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	10,970	10,970	0.46	0.25	0.27	11,050
2026	2.87	20.1	39.9	0.05	0.83	11.7	12.5	0.76	1.49	2.25	—	8,098	8,098	0.34	0.25	0.25	8,181
2027	1.51	11.0	20.9	0.03	0.40	10.6	11.0	0.36	1.26	1.62	—	4,119	4,119	0.14	0.13	0.14	4,162
2028	1.45	10.4	20.6	0.03	0.35	10.6	11.0	0.32	1.26	1.58	—	4,087	4,087	0.13	0.13	0.12	4,130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.16	1.34	2.07	< 0.005	0.04	0.39	0.44	0.04	0.05	0.09	—	410	410	0.02	0.01	0.20	414
2025	2.52	18.8	32.6	0.05	0.78	7.60	8.38	0.72	0.97	1.69	—	6,339	6,339	0.27	0.17	3.00	6,400
2026	1.15	8.40	15.7	0.02	0.32	7.23	7.56	0.30	0.86	1.16	—	3,033	3,033	0.13	0.10	1.80	3,068
2027	1.08	7.82	15.1	0.02	0.28	7.22	7.50	0.26	0.86	1.12	—	2,955	2,955	0.10	0.10	1.61	2,988
2028	0.13	0.96	1.92	< 0.005	0.03	0.93	0.96	0.03	0.11	0.14	—	378	378	0.01	0.01	0.19	382
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.03	0.24	0.38	< 0.005	0.01	0.07	0.08	0.01	0.01	0.02	—	67.9	67.9	< 0.005	< 0.005	0.03	68.6
2025	0.46	3.44	5.96	0.01	0.14	1.39	1.53	0.13	0.18	0.31	—	1,049	1,049	0.04	0.03	0.50	1,060
2026	0.21	1.53	2.87	< 0.005	0.06	1.32	1.38	0.05	0.16	0.21	—	502	502	0.02	0.02	0.30	508
2027	0.20	1.43	2.76	< 0.005	0.05	1.32	1.37	0.05	0.16	0.20	—	489	489	0.02	0.02	0.27	495
2028	0.02	0.17	0.35	< 0.005	0.01	0.17	0.18	0.01	0.02	0.03	—	62.5	62.5	< 0.005	< 0.005	0.03	63.2

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.37	13.2	17.4	0.03	0.47	—	0.47	0.43	—	0.43	—	2,965	2,965	0.12	0.02	—	2,975
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.09	0.05	< 0.005	< 0.005	3.42	3.42	< 0.005	0.34	0.34	—	53.3	53.3	< 0.005	0.01	< 0.005	55.6
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.24	1.64	< 0.005	0.04	—	0.04	0.04	—	0.04	—	279	279	0.01	< 0.005	—	279
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.30	0.30	< 0.005	0.03	0.03	—	5.00	5.00	< 0.005	< 0.005	0.01	5.22
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.23	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.1	46.1	< 0.005	< 0.005	—	46.3

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.86
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.36	4.08	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	856	856	0.04	0.03	0.09	867
Vendor	0.01	0.24	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	194	194	0.01	0.03	0.01	202
Hauling	0.01	0.37	0.14	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	282	282	0.02	0.05	0.02	296
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.40	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.6	81.6	< 0.005	< 0.005	0.14	82.8
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	18.2	18.2	< 0.005	< 0.005	0.02	19.0
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.5	26.5	< 0.005	< 0.005	0.03	27.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.01	3.01	< 0.005	< 0.005	< 0.005	3.14
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.39	4.39	< 0.005	< 0.005	< 0.005	4.61

3.2. Site Preparation (2024) - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.37	13.2	17.4	0.03	0.47	—	0.47	0.43	—	0.43	—	2,965	2,965	0.12	0.02	—	2,975
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.09	0.05	< 0.005	< 0.005	3.42	3.42	< 0.005	0.34	0.34	—	53.3	53.3	< 0.005	0.01	< 0.005	55.6
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.24	1.64	< 0.005	0.04	—	0.04	0.04	—	0.04	—	279	279	0.01	< 0.005	—	279
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.30	0.30	< 0.005	0.03	0.03	—	5.00	5.00	< 0.005	< 0.005	0.01	5.22
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.23	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.1	46.1	< 0.005	< 0.005	—	46.3
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.86
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.36	4.08	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	856	856	0.04	0.03	0.09	867
Vendor	0.01	0.24	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	194	194	0.01	0.03	0.01	202
Hauling	0.01	0.37	0.14	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	282	282	0.02	0.05	0.02	296
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.40	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.6	81.6	< 0.005	< 0.005	0.14	82.8
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	18.2	18.2	< 0.005	< 0.005	0.02	19.0
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.5	26.5	< 0.005	< 0.005	0.03	27.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.01	3.01	< 0.005	< 0.005	< 0.005	3.14
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.39	4.39	< 0.005	< 0.005	< 0.005	4.61

3.3. Site Preparation (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	12.3	17.3	0.03	0.40	—	0.40	0.37	—	0.37	—	2,965	2,965	0.12	0.02	—	2,975

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	3.42	3.42	< 0.005	0.34	0.34	—	52.4	52.4	< 0.005	0.01	< 0.005	54.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.80	5.80	< 0.005	< 0.005	—	5.82
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.96	0.96	< 0.005	< 0.005	—	0.96
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.31	3.78	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	839	839	0.04	0.03	0.08	849
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	190	190	0.01	0.03	0.01	199
Hauling	< 0.005	0.35	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	291

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.69
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.39
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09

3.4. Site Preparation (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	12.3	17.3	0.03	0.40	—	0.40	0.37	—	0.37	—	2,965	2,965	0.12	0.02	—	2,975
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	3.42	3.42	< 0.005	0.34	0.34	—	52.4	52.4	< 0.005	0.01	< 0.005	54.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.80	5.80	< 0.005	< 0.005	—	5.82

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.96	0.96	< 0.005	< 0.005	—	0.96
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.31	3.78	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	839	839	0.04	0.03	0.08	849
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	190	190	0.01	0.03	0.01	199
Hauling	< 0.005	0.35	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.69
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.39
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09

3.5. Grading (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	38.1	52.8	0.09	1.52	—	1.52	1.40	—	1.40	—	8,816	8,816	0.36	0.07	—	8,846
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.01	0.18	0.10	< 0.005	< 0.005	7.70	7.70	< 0.005	0.77	0.77	—	118	118	0.01	0.02	0.31	123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	38.1	52.8	0.09	1.52	—	1.52	1.40	—	1.40	—	8,816	8,816	0.36	0.07	—	8,846
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.01	0.19	0.11	< 0.005	< 0.005	7.70	7.70	< 0.005	0.77	0.77	—	118	118	0.01	0.02	0.01	123
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	6.78	9.40	0.02	0.27	—	0.27	0.25	—	0.25	—	1,570	1,570	0.06	0.01	—	1,575

Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.03	0.02	< 0.005	< 0.005	1.30	1.30	< 0.005	0.13	0.13	—	21.0	21.0	< 0.005	< 0.005	0.02	21.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.24	1.71	< 0.005	0.05	—	0.05	0.05	—	0.05	—	260	260	0.01	< 0.005	—	261
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	3.47	3.47	< 0.005	< 0.005	< 0.005	3.63
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.48	7.65	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,521	1,521	0.06	0.05	5.57	1,544
Vendor	0.01	0.36	0.18	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	317	317	0.01	0.04	0.87	332
Hauling	< 0.005	0.34	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.64	291
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.53	6.49	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,442	1,442	0.07	0.05	0.14	1,460
Vendor	0.01	0.38	0.18	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	317	317	0.01	0.04	0.02	331
Hauling	< 0.005	0.35	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.10	1.21	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	261	261	0.01	0.01	0.43	264
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	56.5	56.5	< 0.005	0.01	0.07	59.0
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.4	49.4	< 0.005	0.01	0.05	51.8

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	43.1	43.1	< 0.005	< 0.005	0.07	43.7
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.36	9.36	< 0.005	< 0.005	0.01	9.77
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.17	8.17	< 0.005	< 0.005	0.01	8.57

3.6. Grading (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	38.1	52.8	0.09	1.52	—	1.52	1.40	—	1.40	—	8,816	8,816	0.36	0.07	—	8,846
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.01	0.18	0.10	< 0.005	< 0.005	7.70	7.70	< 0.005	0.77	0.77	—	118	118	0.01	0.02	0.31	123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	38.1	52.8	0.09	1.52	—	1.52	1.40	—	1.40	—	8,816	8,816	0.36	0.07	—	8,846
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.01	0.19	0.11	< 0.005	< 0.005	7.70	7.70	< 0.005	0.77	0.77	—	118	118	0.01	0.02	0.01	123
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.77	6.78	9.40	0.02	0.27	—	0.27	0.25	—	0.25	—	1,570	1,570	0.06	0.01	—	1,575
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.03	0.02	< 0.005	< 0.005	1.30	1.30	< 0.005	0.13	0.13	—	21.0	21.0	< 0.005	< 0.005	0.02	21.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.24	1.71	< 0.005	0.05	—	0.05	0.05	—	0.05	—	260	260	0.01	< 0.005	—	261
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	3.47	3.47	< 0.005	< 0.005	< 0.005	3.63
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.48	7.65	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,521	1,521	0.06	0.05	5.57	1,544
Vendor	0.01	0.36	0.18	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	317	317	0.01	0.04	0.87	332
Hauling	< 0.005	0.34	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.64	291
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.53	6.49	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,442	1,442	0.07	0.05	0.14	1,460
Vendor	0.01	0.38	0.18	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	317	317	0.01	0.04	0.02	331
Hauling	< 0.005	0.35	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.10	1.21	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	261	261	0.01	0.01	0.43	264

Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	56.5	56.5	< 0.005	0.01	0.07	59.0
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.4	49.4	< 0.005	0.01	0.05	51.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	43.1	43.1	< 0.005	< 0.005	0.07	43.7
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.36	9.36	< 0.005	< 0.005	0.01	9.77
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.17	8.17	< 0.005	< 0.005	0.01	8.57

3.7. Building Construction (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.41	20.0	30.6	0.05	0.94	—	0.94	0.87	—	0.87	—	5,140	5,140	0.21	0.04	—	5,158
Onsite truck	0.01	0.22	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	144	144	0.01	0.02	0.37	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.41	20.0	30.6	0.05	0.94	—	0.94	0.87	—	0.87	—	5,140	5,140	0.21	0.04	—	5,158
Onsite truck	0.01	0.23	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	144	144	0.01	0.02	0.01	150
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	10.7	16.3	0.03	0.50	—	0.50	0.46	—	0.46	—	2,746	2,746	0.11	0.02	—	2,756
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	4.75	4.75	< 0.005	0.48	0.48	—	76.9	76.9	< 0.005	0.01	0.09	80.4

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	1.95	2.98	< 0.005	0.09	—	0.09	0.08	—	0.08	—	455	455	0.02	< 0.005	—	456
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.87	0.87	< 0.005	0.09	0.09	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.69	0.69	11.1	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,212	2,212	0.09	0.08	8.10	2,245
Vendor	0.02	0.72	0.35	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	635	635	0.03	0.09	1.74	663
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.32	146
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.68	0.77	9.44	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,097	2,097	0.10	0.08	0.21	2,123
Vendor	0.02	0.75	0.36	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	635	635	0.03	0.09	0.05	662
Hauling	< 0.005	0.18	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.44	5.30	0.00	0.00	1.10	1.10	0.00	0.26	0.26	—	1,137	1,137	0.05	0.04	1.87	1,152
Vendor	0.01	0.40	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	339	339	0.01	0.05	0.40	354
Hauling	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	74.0	74.0	< 0.005	0.01	0.07	77.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.97	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	188	188	0.01	0.01	0.31	191
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.1	56.1	< 0.005	0.01	0.07	58.6
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.01	12.9

3.8. Building Construction (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.41	20.0	30.6	0.05	0.94	—	0.94	0.87	—	0.87	—	5,140	5,140	0.21	0.04	—	5,158
Onsite truck	0.01	0.22	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	144	144	0.01	0.02	0.37	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.41	20.0	30.6	0.05	0.94	—	0.94	0.87	—	0.87	—	5,140	5,140	0.21	0.04	—	5,158
Onsite truck	0.01	0.23	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	144	144	0.01	0.02	0.01	150
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	10.7	16.3	0.03	0.50	—	0.50	0.46	—	0.46	—	2,746	2,746	0.11	0.02	—	2,756
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	4.75	4.75	< 0.005	0.48	0.48	—	76.9	76.9	< 0.005	0.01	0.09	80.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	1.95	2.98	< 0.005	0.09	—	0.09	0.08	—	0.08	—	455	455	0.02	< 0.005	—	456
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.87	0.87	< 0.005	0.09	0.09	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.69	0.69	11.1	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,212	2,212	0.09	0.08	8.10	2,245
Vendor	0.02	0.72	0.35	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	635	635	0.03	0.09	1.74	663

Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.32	146
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.68	0.77	9.44	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,097	2,097	0.10	0.08	0.21	2,123
Vendor	0.02	0.75	0.36	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	635	635	0.03	0.09	0.05	662
Hauling	< 0.005	0.18	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.44	5.30	0.00	0.00	1.10	1.10	0.00	0.26	0.26	—	1,137	1,137	0.05	0.04	1.87	1,152
Vendor	0.01	0.40	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	339	339	0.01	0.05	0.40	354
Hauling	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	74.0	74.0	< 0.005	0.01	0.07	77.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.97	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	188	188	0.01	0.01	0.31	191
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.1	56.1	< 0.005	0.01	0.07	58.6
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.01	12.9

3.9. Building Construction (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	18.2	30.5	0.05	0.82	—	0.82	0.76	—	0.76	—	5,141	5,141	0.21	0.04	—	5,159

Onsite truck	0.01	0.22	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	142	142	0.01	0.02	0.01	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.42	< 0.005	0.01	—	0.01	0.01	—	0.01	—	70.4	70.4	< 0.005	< 0.005	—	70.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.7	11.7	< 0.005	< 0.005	—	11.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.34
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.70	8.82	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,055	2,055	0.09	0.08	0.19	2,080
Vendor	0.02	0.72	0.34	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	624	624	0.03	0.09	0.04	651
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.6	28.6	< 0.005	< 0.005	0.04	29.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.54	8.54	< 0.005	< 0.005	0.01	8.93
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.86	1.86	< 0.005	< 0.005	< 0.005	1.96
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.73	4.73	< 0.005	< 0.005	0.01	4.79
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.32

3.10. Building Construction (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	18.2	30.5	0.05	0.82	—	0.82	0.76	—	0.76	—	5,141	5,141	0.21	0.04	—	5,159
Onsite truck	0.01	0.22	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	142	142	0.01	0.02	0.01	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.42	< 0.005	0.01	—	0.01	0.01	—	0.01	—	70.4	70.4	< 0.005	< 0.005	—	70.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.7	11.7	< 0.005	< 0.005	—	11.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.34
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.59	0.70	8.82	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,055	2,055	0.09	0.08	0.19	2,080
Vendor	0.02	0.72	0.34	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	624	624	0.03	0.09	0.04	651
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.6	28.6	< 0.005	< 0.005	0.04	29.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.54	8.54	< 0.005	< 0.005	0.01	8.93
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.86	1.86	< 0.005	< 0.005	< 0.005	1.96
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.73	4.73	< 0.005	< 0.005	0.01	4.79
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.32

3.11. Paving (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.10	6.62	0.01	0.24	—	0.24	0.22	—	0.22	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	116	116	0.01	0.02	0.30	121

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.10	6.62	0.01	0.24	—	0.24	0.22	—	0.22	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.18	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	116	116	0.01	0.02	0.01	121
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	3.57	4.64	0.01	0.17	—	0.17	0.15	—	0.15	—	688	688	0.03	0.01	—	690
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	3.41	3.41	< 0.005	0.34	0.34	—	81.1	81.1	< 0.005	0.01	0.09	84.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.65	0.85	< 0.005	0.03	—	0.03	0.03	—	0.03	—	114	114	< 0.005	< 0.005	—	114
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.06	—	13.4	13.4	< 0.005	< 0.005	0.01	14.0
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.31	5.17	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,084	1,084	0.04	0.04	3.67	1,100
Vendor	< 0.005	0.14	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.34	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.35	4.41	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,028	1,028	0.05	0.04	0.10	1,040
Vendor	< 0.005	0.14	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.01	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.27	3.23	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	731	731	0.03	0.03	1.11	740
Vendor	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.10	91.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.59	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	0.01	< 0.005	0.18	123
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.02	15.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2026) - Mitigated

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

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

Off-Road Equipment	0.62	5.10	6.62	0.01	0.24	—	0.24	0.22	—	0.22	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	116	116	0.01	0.02	0.30	121
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.10	6.62	0.01	0.24	—	0.24	0.22	—	0.22	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.18	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	116	116	0.01	0.02	0.01	121
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	3.57	4.64	0.01	0.17	—	0.17	0.15	—	0.15	—	688	688	0.03	0.01	—	690
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	3.41	3.41	< 0.005	0.34	0.34	—	81.1	81.1	< 0.005	0.01	0.09	84.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.65	0.85	< 0.005	0.03	—	0.03	0.03	—	0.03	—	114	114	< 0.005	< 0.005	—	114

Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.06	—	13.4	13.4	< 0.005	< 0.005	0.01	14.0
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.31	5.17	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,084	1,084	0.04	0.04	3.67	1,100
Vendor	< 0.005	0.14	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.34	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.35	4.41	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,028	1,028	0.05	0.04	0.10	1,040
Vendor	< 0.005	0.14	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.01	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.27	3.23	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	731	731	0.03	0.03	1.11	740
Vendor	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.10	91.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.59	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	0.01	< 0.005	0.18	123
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.02	15.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	4.82	6.63	0.01	0.22	—	0.22	0.20	—	0.20	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	114	114	0.01	0.02	0.28	119
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	4.82	6.63	0.01	0.22	—	0.22	0.20	—	0.20	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	114	114	0.01	0.02	0.01	119
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	3.45	4.73	0.01	0.16	—	0.16	0.14	—	0.14	—	701	701	0.03	0.01	—	704

Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	3.47	3.47	< 0.005	0.35	0.35	—	81.1	81.1	< 0.005	0.01	0.09	84.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.63	0.86	< 0.005	0.03	—	0.03	0.03	—	0.03	—	116	116	< 0.005	< 0.005	—	117
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.63	0.63	< 0.005	0.06	0.06	—	13.4	13.4	< 0.005	< 0.005	0.01	14.0
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	4.81	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,063	1,063	0.04	0.04	3.31	1,079
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.32	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.34	4.07	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,008	1,008	0.01	0.04	0.09	1,020
Vendor	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.01	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.25	3.06	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	731	731	0.01	0.03	1.02	740

Vendor	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.10	91.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.56	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.17	123
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.02	15.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Paving (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	4.82	6.63	0.01	0.22	—	0.22	0.20	—	0.20	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	114	114	0.01	0.02	0.28	119
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	4.82	6.63	0.01	0.22	—	0.22	0.20	—	0.20	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—

Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	114	114	0.01	0.02	0.01	119
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	3.45	4.73	0.01	0.16	—	0.16	0.14	—	0.14	—	701	701	0.03	0.01	—	704
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	3.47	3.47	< 0.005	0.35	0.35	—	81.1	81.1	< 0.005	0.01	0.09	84.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.63	0.86	< 0.005	0.03	—	0.03	0.03	—	0.03	—	116	116	< 0.005	< 0.005	—	117
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.63	0.63	< 0.005	0.06	0.06	—	13.4	13.4	< 0.005	< 0.005	0.01	14.0
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	4.81	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,063	1,063	0.04	0.04	3.31	1,079
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.32	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.34	4.07	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,008	1,008	0.01	0.04	0.09	1,020
Vendor	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.01	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.25	3.06	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	731	731	0.01	0.03	1.02	740
Vendor	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.10	91.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.56	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.17	123
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.02	15.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Paving (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	4.57	6.62	0.01	0.19	—	0.19	0.18	—	0.18	—	982	982	0.04	0.01	—	986

Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	111	111	0.01	0.02	0.01	116
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.42	0.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	90.3	90.3	< 0.005	< 0.005	—	90.6
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.05	—	10.2	10.2	< 0.005	< 0.005	0.01	10.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.0	15.0	< 0.005	< 0.005	—	15.0
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.69	1.69	< 0.005	< 0.005	< 0.005	1.77
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.27	0.31	3.84	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	990	990	0.01	0.04	0.08	1,002
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.01	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	92.4	92.4	< 0.005	< 0.005	0.12	93.6
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.02	15.5
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.82	1.82	< 0.005	< 0.005	< 0.005	1.90
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Paving (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	4.57	6.62	0.01	0.19	—	0.19	0.18	—	0.18	—	982	982	0.04	0.01	—	986
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	< 0.005	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	111	111	0.01	0.02	0.01	116
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.42	0.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	90.3	90.3	< 0.005	< 0.005	—	90.6
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.05	—	10.2	10.2	< 0.005	< 0.005	0.01	10.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.0	15.0	< 0.005	< 0.005	—	15.0
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.69	1.69	< 0.005	< 0.005	< 0.005	1.77
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.31	3.84	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	990	990	0.01	0.04	0.08	1,002
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.01	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	92.4	92.4	< 0.005	< 0.005	0.12	93.6
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.02	15.5
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.82	1.82	< 0.005	< 0.005	< 0.005	1.90
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Architectural Coating (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.38	8.93	0.01	0.20	—	0.20	0.18	—	0.18	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	90.0	90.0	0.01	0.01	0.23	94.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.38	8.93	0.01	0.20	—	0.20	0.18	—	0.18	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.14	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	90.1	90.1	0.01	0.01	0.01	94.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.40	3.77	6.26	0.01	0.14	—	0.14	0.13	—	0.13	—	994	994	0.04	0.01	—	997
Onsite truck	< 0.005	0.10	0.06	< 0.005	< 0.005	2.65	2.65	< 0.005	0.27	0.27	—	63.1	63.1	< 0.005	0.01	0.07	66.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.69	1.14	< 0.005	0.03	—	0.03	0.02	—	0.02	—	165	165	0.01	< 0.005	—	165
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.48	0.48	< 0.005	0.05	0.05	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.29	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	271	271	0.01	0.01	0.92	275
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.31	143
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.10	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	257	257	0.01	0.01	0.02	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.07	0.81	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	0.01	0.01	0.28	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.3	95.3	0.01	0.02	0.09	100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.05	30.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.02	16.6

3.18. Architectural Coating (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.38	8.93	0.01	0.20	—	0.20	0.18	—	0.18	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	90.0	90.0	0.01	0.01	0.23	94.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.38	8.93	0.01	0.20	—	0.20	0.18	—	0.18	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.14	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	90.1	90.1	0.01	0.01	0.01	94.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	3.77	6.26	0.01	0.14	—	0.14	0.13	—	0.13	—	994	994	0.04	0.01	—	997
Onsite truck	< 0.005	0.10	0.06	< 0.005	< 0.005	2.65	2.65	< 0.005	0.27	0.27	—	63.1	63.1	< 0.005	0.01	0.07	66.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.69	1.14	< 0.005	0.03	—	0.03	0.02	—	0.02	—	165	165	0.01	< 0.005	—	165
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.48	0.48	< 0.005	0.05	0.05	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.29	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	271	271	0.01	0.01	0.92	275
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.31	143
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.10	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	257	257	0.01	0.01	0.02	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.07	0.81	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	0.01	0.01	0.28	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.3	95.3	0.01	0.02	0.09	100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.05	30.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.02	16.6

3.19. Architectural Coating (2027) - Unmitigated

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

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

Off-Road Equipment	0.54	5.09	8.92	0.01	0.17	—	0.17	0.16	—	0.16	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	88.3	88.3	0.01	0.01	0.22	92.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	5.09	8.92	0.01	0.17	—	0.17	0.16	—	0.16	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.14	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	88.4	88.4	0.01	0.01	0.01	92.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	3.63	6.37	0.01	0.12	—	0.12	0.11	—	0.11	—	1,014	1,014	0.04	0.01	—	1,017
Onsite truck	< 0.005	0.10	0.05	< 0.005	< 0.005	2.70	2.70	< 0.005	0.27	0.27	—	63.1	63.1	< 0.005	0.01	0.07	65.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.66	1.16	< 0.005	0.02	—	0.02	0.02	—	0.02	—	168	168	0.01	< 0.005	—	168
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.49	0.49	< 0.005	0.05	0.05	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	1.20	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	266	266	0.01	0.01	0.83	270
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.28	140
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.02	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	252	252	< 0.005	0.01	0.02	255

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.01	140
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.06	0.76	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	< 0.005	0.01	0.25	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.3	95.3	< 0.005	0.02	0.09	100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.04	30.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.01	16.6

3.20. Architectural Coating (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	5.09	8.92	0.01	0.17	—	0.17	0.16	—	0.16	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	88.3	88.3	0.01	0.01	0.22	92.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	5.09	8.92	0.01	0.17	—	0.17	0.16	—	0.16	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.14	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	88.4	88.4	0.01	0.01	0.01	92.2

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	3.63	6.37	0.01	0.12	—	0.12	0.11	—	0.11	—	1,014	1,014	0.04	0.01	—	1,017
Onsite truck	< 0.005	0.10	0.05	< 0.005	< 0.005	2.70	2.70	< 0.005	0.27	0.27	—	63.1	63.1	< 0.005	0.01	0.07	65.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.66	1.16	< 0.005	0.02	—	0.02	0.02	—	0.02	—	168	168	0.01	< 0.005	—	168
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.49	0.49	< 0.005	0.05	0.05	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	1.20	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	266	266	0.01	0.01	0.83	270
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.28	140
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.02	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	252	252	< 0.005	0.01	0.02	255
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.01	140
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.06	0.76	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	< 0.005	0.01	0.25	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.3	95.3	< 0.005	0.02	0.09	100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.04	30.6

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.01	16.6

3.21. Architectural Coating (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	4.86	8.93	0.01	0.15	—	0.15	0.14	—	0.14	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	86.4	86.4	< 0.005	0.01	0.01	90.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.45	0.82	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.03	0.04	—	7.94	7.94	< 0.005	< 0.005	0.01	8.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.6	21.6	< 0.005	< 0.005	—	21.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.37
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.96	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	247	247	< 0.005	0.01	0.02	250
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	130	130	0.01	0.02	0.01	137
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.1	23.1	< 0.005	< 0.005	0.03	23.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.01	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.82	3.82	< 0.005	< 0.005	< 0.005	3.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.08

3.22. Architectural Coating (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	4.86	8.93	0.01	0.15	—	0.15	0.14	—	0.14	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	86.4	86.4	< 0.005	0.01	0.01	90.2

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.45	0.82	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.03	0.04	—	7.94	7.94	< 0.005	< 0.005	0.01	8.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.6	21.6	< 0.005	< 0.005	—	21.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.37
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.96	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	247	247	< 0.005	0.01	0.02	250
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	130	130	0.01	0.02	0.01	137
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.1	23.1	< 0.005	< 0.005	0.03	23.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.01	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.82	3.82	< 0.005	< 0.005	< 0.005	3.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.08

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	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	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	11/14/2024	1/1/2025	5.00	35.0	site clearing
Grading	Grading	1/2/2025	4/2/2025	5.00	65.0	excavation and grading
Building Construction	Building Construction	4/3/2025	1/7/2026	5.00	200	installation of park canopies and structures
Paving	Paving	1/8/2026	2/16/2028	5.00	550	paving of parking lot and access roads/paths
Architectural Coating	Architectural Coating	1/8/2026	2/16/2028	5.00	550	landscaping & finishing on structures

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	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Air Compressors	Diesel	Average	1.00	4.00	37.0	0.48
Site Preparation	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
Site Preparation	Aerial Lifts	Diesel	Average	5.00	6.00	46.0	0.31
Site Preparation	Rubber Tired Loaders	Diesel	Average	2.00	6.00	150	0.36
Site Preparation	Welders	Diesel	Average	3.00	4.00	46.0	0.45
Site Preparation	Cranes	Diesel	Average	1.00	4.00	367	0.29
Grading	Graders	Diesel	Average	2.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	6.00	7.00	84.0	0.37
Grading	Air Compressors	Diesel	Average	2.00	6.00	37.0	0.48
Grading	Rollers	Diesel	Average	1.00	6.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	5.00	7.00	150	0.36
Grading	Welders	Diesel	Average	3.00	7.00	46.0	0.45
Grading	Aerial Lifts	Diesel	Average	9.00	6.00	46.0	0.31
Grading	Generator Sets	Diesel	Average	2.00	6.00	14.0	0.74
Grading	Cranes	Diesel	Average	1.00	4.00	367	0.29
Grading	Forklifts	Diesel	Average	4.00	7.00	82.0	0.20
Grading	Pressure Washers	Diesel	Average	3.00	6.00	14.0	0.30
Grading	Trenchers	Diesel	Average	1.00	4.00	40.0	0.50
Grading	Surfacing Equipment	Diesel	Average	1.00	4.00	399	0.30
Building Construction	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Rollers	Diesel	Average	2.00	7.00	36.0	0.38
Building Construction	Rubber Tired Loaders	Diesel	Average	4.00	7.00	150	0.36
Building Construction	Skid Steer Loaders	Diesel	Average	2.00	7.00	71.0	0.37
Building Construction	Graders	Diesel	Average	2.00	6.00	148	0.41
Building Construction	Surfacing Equipment	Diesel	Average	1.00	4.00	399	0.30
Building Construction	Off-Highway Tractors	Diesel	Average	1.00	6.00	38.0	0.44
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Graders	Diesel	Average	1.00	6.00	148	0.41
Paving	Welders	Diesel	Average	1.00	6.00	46.0	0.45
Architectural Coating	Skid Steer Loaders	Diesel	Average	2.00	7.00	71.0	0.37
Architectural Coating	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Architectural Coating	Aerial Lifts	Diesel	Average	1.00	7.00	46.0	0.31
Architectural Coating	Rubber Tired Loaders	Diesel	Average	1.00	7.00	150	0.36
Architectural Coating	Trenchers	Diesel	Average	1.00	6.00	40.0	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Air Compressors	Diesel	Average	1.00	4.00	37.0	0.48
Site Preparation	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
Site Preparation	Aerial Lifts	Diesel	Average	5.00	6.00	46.0	0.31
Site Preparation	Rubber Tired Loaders	Diesel	Average	2.00	6.00	150	0.36
Site Preparation	Welders	Diesel	Average	3.00	4.00	46.0	0.45
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Grading	Tractors/Loaders/Backhoes	Diesel	Average	6.00	7.00	84.0	0.37
Grading	Air Compressors	Diesel	Average	2.00	6.00	37.0	0.48
Grading	Rollers	Diesel	Average	1.00	6.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	5.00	7.00	150	0.36
Grading	Welders	Diesel	Average	3.00	7.00	46.0	0.45
Grading	Aerial Lifts	Diesel	Average	9.00	6.00	46.0	0.31
Grading	Generator Sets	Diesel	Average	2.00	6.00	14.0	0.74
Grading	Cranes	Diesel	Average	1.00	4.00	367	0.29
Grading	Forklifts	Diesel	Average	4.00	7.00	82.0	0.20
Grading	Pressure Washers	Diesel	Average	3.00	6.00	14.0	0.30
Grading	Trenchers	Diesel	Average	1.00	4.00	40.0	0.50
Grading	Surfacing Equipment	Diesel	Average	1.00	4.00	399	0.30
Building Construction	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
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Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
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Building Construction	Off-Highway Tractors	Diesel	Average	1.00	6.00	38.0	0.44
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Graders	Diesel	Average	1.00	6.00	148	0.41

Paving	Welders	Diesel	Average	1.00	6.00	46.0	0.45
Architectural Coating	Skid Steer Loaders	Diesel	Average	2.00	7.00	71.0	0.37
Architectural Coating	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Architectural Coating	Aerial Lifts	Diesel	Average	1.00	7.00	46.0	0.31
Architectural Coating	Rubber Tired Loaders	Diesel	Average	1.00	7.00	150	0.36
Architectural Coating	Trenchers	Diesel	Average	1.00	6.00	40.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	64.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	6.00	10.2	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	110	18.5	LDA,LDT1,LDT2
Grading	Vendor	10.0	10.2	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	9.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	160	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	20.0	10.2	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	11.0	4.00	HHDT,MHDT
Paving	—	—	—	—

Paving	Worker	80.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	4.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	9.00	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	20.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	2.00	20.0	HHDT
Architectural Coating	Onsite truck	7.00	4.00	HHDT,MHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	64.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	6.00	10.2	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	110	18.5	LDA,LDT1,LDT2
Grading	Vendor	10.0	10.2	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	9.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	160	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	20.0	10.2	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	11.0	4.00	HHDT,MHDT

Paving	—	—	—	—
Paving	Worker	80.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	4.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	9.00	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	20.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	2.00	20.0	HHDT
Architectural Coating	Onsite truck	7.00	4.00	HHDT,MHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	57%	57%

5.5. Architectural Coatings

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

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	0.00	0.00	—

Grading	0.00	0.00	65.0	0.00	—
Paving	0.00	0.00	37.5	0.00	3.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Parking Lot	3.00	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	690	0.05	0.01
2025	0.00	690	0.05	0.01
2026	0.00	690	0.05	0.01
2027	0.00	690	0.05	0.01
2028	0.00	690	0.05	0.01

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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

6.4.1. Wildfire

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
MH-14: Maintain Trails and Parks	Improved Public Health, Social Equity	—	1.00	1.00

6.4.2. Temperature and Extreme Heat

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
D-3: Install Drought Resistant Landscaping	Water Conservation	—	1.00	1.00

EH-9: Expand Urban Tree Canopy	Energy and Fuel Savings, Improved Air Quality, Improved Public Health, Social Equity	1.00	1.00	—
MH-14: Maintain Trails and Parks	Improved Public Health, Social Equity	—	1.00	1.00
MH-23: Landscape with Climate Considerations	Improved Ecosystem Health, Water Conservation	—	1.00	—
MH-41: Expand Urban Greening/Agriculture	Enhanced Food Security, Improved Air Quality, Improved Public Health, Social Equity, Water Conservation	1.00	1.00	1.00

6.4.3. Air Quality Degradation

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
MH-41: Expand Urban Greening/Agriculture	Enhanced Food Security, Improved Air Quality, Improved Public Health, Social Equity, Water Conservation	1.00	1.00	1.00

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	69.6
AQ-PM	65.9
AQ-DPM	47.5
Drinking Water	92.5
Lead Risk Housing	—
Pesticides	0.00
Toxic Releases	70.0

Traffic	99.5
Effect Indicators	—
CleanUp Sites	94.3
Groundwater	36.9
Haz Waste Facilities/Generators	47.6
Impaired Water Bodies	77.3
Solid Waste	89.9
Sensitive Population	—
Asthma	8.92
Cardio-vascular	23.8
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—

High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	87.3
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	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	79.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
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	100.0
SLR Inundation Area	0.0
Children	99.4
Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.9

Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Park construction schedule obtained from PD dated 1-11-24.

Construction: Off-Road Equipment	Equipment inventory provided by LADWP.
Construction: Dust From Material Movement	Included all phases with earthmoving equipment (i.e., grader).
Construction: Trips and VMT	Personnel & vehicle inventories provided by LADWP.
Construction: On-Road Fugitive Dust	Vehicle speeds on unpaved areas limited to 15 mph = 57% dust reduction (SCAQMD Table XI-A)

LADWP Headworks Project - WQL Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LADWP Headworks Project - WQL Construction
Construction Start Date	6/14/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	20.2
Location	34.15313612290838, -118.3185549473283
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3974
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
Research & Development	100	1000sqft	4.85	100,000	111,500	111,500	—	—

Parking Lot	2.15	Acre	2.15	0.00	15,625	15,625	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-4*	Use Local and Sustainable Building Materials

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.2	33.3	37.7	0.08	1.28	9.65	10.3	1.18	1.87	3.05	—	9,448	9,448	0.39	0.22	6.64	9,521
Mit.	12.2	33.3	37.7	0.08	1.28	9.65	10.3	1.18	1.87	3.05	—	9,448	9,448	0.39	0.22	6.64	9,521
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.2	33.4	37.5	0.08	1.28	9.65	10.3	1.18	1.87	3.05	—	9,428	9,428	0.38	0.22	0.17	9,497
Mit.	12.2	33.4	37.5	0.08	1.28	9.65	10.3	1.18	1.87	3.05	—	9,428	9,428	0.38	0.22	0.17	9,497
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	3.82	11.4	15.3	0.03	0.43	5.34	5.60	0.39	0.67	0.99	—	3,510	3,510	0.13	0.09	1.25	3,542
Mit.	3.82	11.4	15.3	0.03	0.43	5.34	5.60	0.39	0.67	0.99	—	3,510	3,510	0.13	0.09	1.25	3,542
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.70	2.09	2.80	0.01	0.08	0.97	1.02	0.07	0.12	0.18	—	581	581	0.02	0.02	0.21	586
Mit.	0.70	2.09	2.80	0.01	0.08	0.97	1.02	0.07	0.12	0.18	—	581	581	0.02	0.02	0.21	586
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.86	33.3	37.7	0.08	1.28	7.16	8.44	1.18	1.87	3.05	—	9,448	9,448	0.39	0.20	3.21	9,521

2028	1.11	11.5	17.4	0.03	0.20	6.81	7.00	0.18	0.79	0.97	—	3,347	3,347	0.11	0.08	2.74	3,376
2029	12.2	18.0	30.3	0.05	0.67	9.65	10.3	0.61	1.28	1.89	—	7,656	7,656	0.26	0.22	6.64	7,734
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.86	33.4	37.5	0.08	1.28	7.16	8.44	1.18	1.87	3.05	—	9,428	9,428	0.38	0.20	0.10	9,497
2028	1.97	16.3	24.4	0.05	0.48	6.81	7.00	0.44	0.79	1.14	—	5,910	5,910	0.23	0.18	0.09	5,969
2029	12.2	18.1	29.0	0.05	0.67	9.65	10.3	0.61	1.28	1.89	—	7,550	7,550	0.26	0.22	0.17	7,622
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.33	11.4	13.4	0.03	0.43	2.59	3.02	0.39	0.60	0.99	—	3,342	3,342	0.13	0.08	0.57	3,368
2028	0.87	8.70	12.8	0.02	0.17	4.52	4.69	0.15	0.53	0.68	—	2,613	2,613	0.09	0.06	0.87	2,635
2029	3.82	9.94	15.3	0.02	0.26	5.34	5.60	0.24	0.67	0.91	—	3,510	3,510	0.12	0.09	1.25	3,542
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.24	2.09	2.45	0.01	0.08	0.47	0.55	0.07	0.11	0.18	—	553	553	0.02	0.01	0.09	558
2028	0.16	1.59	2.34	< 0.005	0.03	0.83	0.86	0.03	0.10	0.12	—	433	433	0.02	0.01	0.14	436
2029	0.70	1.81	2.80	< 0.005	0.05	0.97	1.02	0.04	0.12	0.17	—	581	581	0.02	0.02	0.21	586

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.86	33.3	37.7	0.08	1.28	7.16	8.44	1.18	1.87	3.05	—	9,448	9,448	0.39	0.20	3.21	9,521
2028	1.11	11.5	17.4	0.03	0.20	6.81	7.00	0.18	0.79	0.97	—	3,347	3,347	0.11	0.08	2.74	3,376
2029	12.2	18.0	30.3	0.05	0.67	9.65	10.3	0.61	1.28	1.89	—	7,656	7,656	0.26	0.22	6.64	7,734
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2027	3.86	33.4	37.5	0.08	1.28	7.16	8.44	1.18	1.87	3.05	—	9,428	9,428	0.38	0.20	0.10	9,497
2028	1.97	16.3	24.4	0.05	0.48	6.81	7.00	0.44	0.79	1.14	—	5,910	5,910	0.23	0.18	0.09	5,969
2029	12.2	18.1	29.0	0.05	0.67	9.65	10.3	0.61	1.28	1.89	—	7,550	7,550	0.26	0.22	0.17	7,622
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.33	11.4	13.4	0.03	0.43	2.59	3.02	0.39	0.60	0.99	—	3,342	3,342	0.13	0.08	0.57	3,368
2028	0.87	8.70	12.8	0.02	0.17	4.52	4.69	0.15	0.53	0.68	—	2,613	2,613	0.09	0.06	0.87	2,635
2029	3.82	9.94	15.3	0.02	0.26	5.34	5.60	0.24	0.67	0.91	—	3,510	3,510	0.12	0.09	1.25	3,542
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.24	2.09	2.45	0.01	0.08	0.47	0.55	0.07	0.11	0.18	—	553	553	0.02	0.01	0.09	558
2028	0.16	1.59	2.34	< 0.005	0.03	0.83	0.86	0.03	0.10	0.12	—	433	433	0.02	0.01	0.14	436
2029	0.70	1.81	2.80	< 0.005	0.05	0.97	1.02	0.04	0.12	0.17	—	581	581	0.02	0.02	0.21	586

3. Construction Emissions Details

3.1. Site Preparation (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.73	32.3	35.5	0.08	1.28	—	1.28	1.17	—	1.17	—	8,243	8,243	0.33	0.07	—	8,272
Dust From Material Movement	—	—	—	—	—	3.18	3.18	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.07	0.04	< 0.005	< 0.005	3.38	3.38	< 0.005	0.34	0.34	—	50.5	50.5	< 0.005	0.01	0.13	52.8

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.73	32.3	35.5	0.08	1.28	—	1.28	1.17	—	1.17	—	8,243	8,243	0.33	0.07	—	8,272
Dust From Material Movement	—	—	—	—	—	3.18	3.18	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.04	< 0.005	< 0.005	3.38	3.38	< 0.005	0.34	0.34	—	50.5	50.5	< 0.005	0.01	< 0.005	52.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.30	10.2	0.02	0.37	—	0.37	0.34	—	0.34	—	2,371	2,371	0.10	0.02	—	2,380
Dust From Material Movement	—	—	—	—	—	0.91	0.91	—	0.40	0.40	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.92	0.92	< 0.005	0.09	0.09	—	14.5	14.5	< 0.005	< 0.005	0.02	15.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.70	1.86	< 0.005	0.07	—	0.07	0.06	—	0.06	—	393	393	0.02	< 0.005	—	394
Dust From Material Movement	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.17	0.17	< 0.005	0.02	0.02	—	2.40	2.40	< 0.005	< 0.005	< 0.005	2.51
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	1.80	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	399	399	0.02	0.01	1.24	405

Vendor	0.01	0.53	0.25	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	1.28	511
Hauling	< 0.005	0.32	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.57	281
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.13	1.53	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	378	378	0.01	0.01	0.03	382
Vendor	0.01	0.55	0.26	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	0.03	510
Hauling	< 0.005	0.33	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.01	280
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.46	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.15	112
Vendor	< 0.005	0.16	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	0.01	0.02	0.16	147
Hauling	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	76.7	76.7	< 0.005	0.01	0.07	80.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.3	18.3	< 0.005	< 0.005	0.03	18.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.3	23.3	< 0.005	< 0.005	0.03	24.3
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3

3.2. Site Preparation (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.73	32.3	35.5	0.08	1.28	—	1.28	1.17	—	1.17	—	8,243	8,243	0.33	0.07	—	8,272

Dust From Material Movement	—	—	—	—	—	3.18	3.18	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.07	0.04	< 0.005	< 0.005	3.38	3.38	< 0.005	0.34	0.34	—	50.5	50.5	< 0.005	0.01	0.13	52.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.73	32.3	35.5	0.08	1.28	—	1.28	1.17	—	1.17	—	8,243	8,243	0.33	0.07	—	8,272
Dust From Material Movement	—	—	—	—	—	3.18	3.18	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.04	< 0.005	< 0.005	3.38	3.38	< 0.005	0.34	0.34	—	50.5	50.5	< 0.005	0.01	< 0.005	52.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.30	10.2	0.02	0.37	—	0.37	0.34	—	0.34	—	2,371	2,371	0.10	0.02	—	2,380
Dust From Material Movement	—	—	—	—	—	0.91	0.91	—	0.40	0.40	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.92	0.92	< 0.005	0.09	0.09	—	14.5	14.5	< 0.005	< 0.005	0.02	15.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.70	1.86	< 0.005	0.07	—	0.07	0.06	—	0.06	—	393	393	0.02	< 0.005	—	394
Dust From Material Movement	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.17	0.17	< 0.005	0.02	0.02	—	2.40	2.40	< 0.005	< 0.005	< 0.005	2.51

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	1.80	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	399	399	0.02	0.01	1.24	405
Vendor	0.01	0.53	0.25	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	1.28	511
Hauling	< 0.005	0.32	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.57	281
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.13	1.53	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	378	378	0.01	0.01	0.03	382
Vendor	0.01	0.55	0.26	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	0.03	510
Hauling	< 0.005	0.33	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.01	280
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.46	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.15	112
Vendor	< 0.005	0.16	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	0.01	0.02	0.16	147
Hauling	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	76.7	76.7	< 0.005	0.01	0.07	80.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.3	18.3	< 0.005	< 0.005	0.03	18.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.3	23.3	< 0.005	< 0.005	0.03	24.3
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3

3.3. Grading (2027) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.89	16.1	22.1	0.05	0.53	—	0.53	0.49	—	0.49	—	4,601	4,601	0.19	0.04	—	4,616
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	5.13	5.13	< 0.005	0.51	0.51	—	75.8	75.8	< 0.005	0.01	< 0.005	79.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.70	2.34	< 0.005	0.06	—	0.06	0.05	—	0.05	—	486	486	0.02	< 0.005	—	488
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.51	0.51	< 0.005	0.05	0.05	—	8.00	8.00	< 0.005	< 0.005	0.01	8.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.31	0.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.5	80.5	< 0.005	< 0.005	—	80.8
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.38
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.17	2.04	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	504	504	0.01	0.02	0.04	510
Vendor	0.01	0.55	0.26	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	0.03	510
Hauling	< 0.005	0.33	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.01	280
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.0	54.0	< 0.005	< 0.005	0.08	54.7
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.7	51.7	< 0.005	0.01	0.06	53.9
Hauling	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.2	28.2	< 0.005	< 0.005	0.03	29.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.95	8.95	< 0.005	< 0.005	0.01	9.06
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.56	8.56	< 0.005	< 0.005	0.01	8.93
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.67	4.67	< 0.005	< 0.005	< 0.005	4.90

3.4. Grading (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.89	16.1	22.1	0.05	0.53	—	0.53	0.49	—	0.49	—	4,601	4,601	0.19	0.04	—	4,616

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	5.13	5.13	< 0.005	0.51	0.51	—	75.8	75.8	< 0.005	0.01	< 0.005	79.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.70	2.34	< 0.005	0.06	—	0.06	0.05	—	0.05	—	486	486	0.02	< 0.005	—	488
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.51	0.51	< 0.005	0.05	0.05	—	8.00	8.00	< 0.005	< 0.005	0.01	8.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.31	0.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.5	80.5	< 0.005	< 0.005	—	80.8
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.38
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.17	2.04	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	504	504	0.01	0.02	0.04	510
Vendor	0.01	0.55	0.26	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	0.03	510
Hauling	< 0.005	0.33	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.01	280

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.0	54.0	< 0.005	< 0.005	0.08	54.7
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.7	51.7	< 0.005	0.01	0.06	53.9
Hauling	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.2	28.2	< 0.005	< 0.005	0.03	29.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.95	8.95	< 0.005	< 0.005	0.01	9.06
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.56	8.56	< 0.005	< 0.005	0.01	8.93
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.67	4.67	< 0.005	< 0.005	< 0.005	4.90

3.5. Grading (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.81	15.2	22.1	0.05	0.47	—	0.47	0.44	—	0.44	—	4,602	4,602	0.19	0.04	—	4,618
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.11	0.06	< 0.005	< 0.005	5.13	5.13	< 0.005	0.51	0.51	—	74.1	74.1	< 0.005	0.01	< 0.005	77.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	1.46	2.12	< 0.005	0.05	—	0.05	0.04	—	0.04	—	441	441	0.02	< 0.005	—	443

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.47	0.47	< 0.005	0.05	0.05	—	7.10	7.10	< 0.005	< 0.005	0.01	7.42
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.27	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	73.1	73.1	< 0.005	< 0.005	—	73.3
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.16	1.92	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	495	495	0.01	0.02	0.04	501
Vendor	0.01	0.52	0.24	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	478	478	0.02	0.07	0.03	499
Hauling	< 0.005	0.32	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	261	261	0.01	0.04	0.01	274
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.2	48.2	< 0.005	< 0.005	0.06	48.8
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	45.8	45.8	< 0.005	0.01	0.05	47.8
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.0	25.0	< 0.005	< 0.005	0.02	26.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.97	7.97	< 0.005	< 0.005	0.01	8.08
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.59	7.59	< 0.005	< 0.005	0.01	7.92

Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	< 0.005	4.35

3.6. Grading (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.81	15.2	22.1	0.05	0.47	—	0.47	0.44	—	0.44	—	4,602	4,602	0.19	0.04	—	4,618
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.11	0.06	< 0.005	< 0.005	5.13	5.13	< 0.005	0.51	0.51	—	74.1	74.1	< 0.005	0.01	< 0.005	77.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	1.46	2.12	< 0.005	0.05	—	0.05	0.04	—	0.04	—	441	441	0.02	< 0.005	—	443
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.47	0.47	< 0.005	0.05	0.05	—	7.10	7.10	< 0.005	< 0.005	0.01	7.42
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.27	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	73.1	73.1	< 0.005	< 0.005	—	73.3

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.16	1.92	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	495	495	0.01	0.02	0.04	501
Vendor	0.01	0.52	0.24	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	478	478	0.02	0.07	0.03	499
Hauling	< 0.005	0.32	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	261	261	0.01	0.04	0.01	274
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.2	48.2	< 0.005	< 0.005	0.06	48.8
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	45.8	45.8	< 0.005	0.01	0.05	47.8
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.0	25.0	< 0.005	< 0.005	0.02	26.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.97	7.97	< 0.005	< 0.005	0.01	8.08
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.59	7.59	< 0.005	< 0.005	0.01	7.92
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	< 0.005	4.35

3.7. Building Construction (2028) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	11.1	13.9	0.02	0.19	—	0.19	0.18	—	0.18	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	86.3	86.3	< 0.005	0.01	0.21	90.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	11.1	13.9	0.02	0.19	—	0.19	0.18	—	0.18	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	86.4	86.4	< 0.005	0.01	0.01	90.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	6.84	8.55	0.01	0.12	—	0.12	0.11	—	0.11	—	1,454	1,454	0.06	0.01	—	1,459
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	3.49	3.49	< 0.005	0.35	0.35	—	53.2	53.2	< 0.005	0.01	0.05	55.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	1.25	1.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	241	241	0.01	< 0.005	—	241
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.64	0.64	< 0.005	0.06	0.06	—	8.81	8.81	< 0.005	< 0.005	0.01	9.21
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.20	3.38	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	783	783	0.01	0.03	2.23	794
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	119	119	< 0.005	0.02	0.30	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.23	2.88	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	742	742	0.01	0.03	0.06	751
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.01	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.14	1.85	0.00	0.00	0.48	0.48	0.00	0.11	0.11	—	464	464	0.01	0.02	0.60	470
Vendor	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.6	73.6	< 0.005	0.01	0.08	76.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.34	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	76.9	76.9	< 0.005	< 0.005	0.10	77.9
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.01	12.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	11.1	13.9	0.02	0.19	—	0.19	0.18	—	0.18	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	86.3	86.3	< 0.005	0.01	0.21	90.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.90	11.1	13.9	0.02	0.19	—	0.19	0.18	—	0.18	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	86.4	86.4	< 0.005	0.01	0.01	90.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	6.84	8.55	0.01	0.12	—	0.12	0.11	—	0.11	—	1,454	1,454	0.06	0.01	—	1,459
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	3.49	3.49	< 0.005	0.35	0.35	—	53.2	53.2	< 0.005	0.01	0.05	55.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	1.25	1.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	241	241	0.01	< 0.005	—	241
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.64	0.64	< 0.005	0.06	0.06	—	8.81	8.81	< 0.005	< 0.005	0.01	9.21
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.20	3.38	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	783	783	0.01	0.03	2.23	794
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	119	119	< 0.005	0.02	0.30	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.23	2.88	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	742	742	0.01	0.03	0.06	751
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.01	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.14	1.85	0.00	0.00	0.48	0.48	0.00	0.11	0.11	—	464	464	0.01	0.02	0.60	470
Vendor	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.6	73.6	< 0.005	0.01	0.08	76.9

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.34	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	76.9	76.9	< 0.005	< 0.005	0.10	77.9
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.01	12.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2029) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	11.0	13.9	0.02	0.18	—	0.18	0.17	—	0.17	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	84.1	84.1	< 0.005	0.01	0.20	88.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	11.0	13.9	0.02	0.18	—	0.18	0.17	—	0.17	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	84.2	84.2	< 0.005	0.01	0.01	88.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	4.77	6.02	0.01	0.08	—	0.08	0.07	—	0.07	—	1,024	1,024	0.04	0.01	—	1,028
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	2.46	2.46	< 0.005	0.25	0.25	—	36.6	36.6	< 0.005	0.01	0.04	38.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.07	0.87	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	170	170	0.01	< 0.005	—	170
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.04	—	6.05	6.05	< 0.005	< 0.005	0.01	6.33
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	3.16	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	770	770	0.01	0.03	2.00	780
Vendor	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.28	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.21	2.68	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	730	730	0.01	0.03	0.05	739
Vendor	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.01	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.09	1.22	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	322	322	< 0.005	0.01	0.38	326
Vendor	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	50.5	50.5	< 0.005	0.01	0.05	52.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	53.3	53.3	< 0.005	< 0.005	0.06	54.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.37	8.37	< 0.005	< 0.005	0.01	8.74
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2029) - Mitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	11.0	13.9	0.02	0.18	—	0.18	0.17	—	0.17	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	84.1	84.1	< 0.005	0.01	0.20	88.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	11.0	13.9	0.02	0.18	—	0.18	0.17	—	0.17	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	84.2	84.2	< 0.005	0.01	0.01	88.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	4.77	6.02	0.01	0.08	—	0.08	0.07	—	0.07	—	1,024	1,024	0.04	0.01	—	1,028
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	2.46	2.46	< 0.005	0.25	0.25	—	36.6	36.6	< 0.005	0.01	0.04	38.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.87	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	170	170	0.01	< 0.005	—	170
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.04	—	6.05	6.05	< 0.005	< 0.005	0.01	6.33
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	3.16	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	770	770	0.01	0.03	2.00	780
Vendor	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.28	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.21	2.68	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	730	730	0.01	0.03	0.05	739
Vendor	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.01	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.09	1.22	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	322	322	< 0.005	0.01	0.38	326
Vendor	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	50.5	50.5	< 0.005	0.01	0.05	52.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	53.3	53.3	< 0.005	< 0.005	0.06	54.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.37	8.37	< 0.005	< 0.005	0.01	8.74
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2029) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.03	4.03	0.01	0.12	—	0.12	0.11	—	0.11	—	599	599	0.02	< 0.005	—	601
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.15	0.09	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	108	108	0.01	0.02	0.25	113

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.03	4.03	0.01	0.12	—	0.12	0.11	—	0.11	—	599	599	0.02	< 0.005	—	601
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	108	108	0.01	0.02	0.01	113
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.11	< 0.005	0.03	—	0.03	0.03	—	0.03	—	164	164	0.01	< 0.005	—	165
Paving	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.04	0.03	< 0.005	< 0.005	1.33	1.33	< 0.005	0.13	0.13	—	29.6	29.6	< 0.005	< 0.005	0.03	31.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.2	27.2	< 0.005	< 0.005	—	27.3
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	4.91	4.91	< 0.005	< 0.005	< 0.005	5.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	4.22	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,026	1,026	0.01	0.04	2.66	1,041
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.59	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	509	509	0.03	0.08	0.98	534
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.27	3.57	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	973	973	0.01	0.04	0.07	985

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.61	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	509	509	0.03	0.08	0.03	534
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	271	271	< 0.005	0.01	0.32	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.12	146
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.05	45.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.1	23.1	< 0.005	< 0.005	0.02	24.2

3.12. Paving (2029) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.03	4.03	0.01	0.12	—	0.12	0.11	—	0.11	—	599	599	0.02	< 0.005	—	601
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.15	0.09	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	108	108	0.01	0.02	0.25	113
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.03	4.03	0.01	0.12	—	0.12	0.11	—	0.11	—	599	599	0.02	< 0.005	—	601
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	108	108	0.01	0.02	0.01	113
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.11	< 0.005	0.03	—	0.03	0.03	—	0.03	—	164	164	0.01	< 0.005	—	165
Paving	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.04	0.03	< 0.005	< 0.005	1.33	1.33	< 0.005	0.13	0.13	—	29.6	29.6	< 0.005	< 0.005	0.03	31.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.2	27.2	< 0.005	< 0.005	—	27.3
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	4.91	4.91	< 0.005	< 0.005	< 0.005	5.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	4.22	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,026	1,026	0.01	0.04	2.66	1,041
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.59	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	509	509	0.03	0.08	0.98	534
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.27	3.57	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	973	973	0.01	0.04	0.07	985
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.61	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	509	509	0.03	0.08	0.03	534
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	271	271	< 0.005	0.01	0.32	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.12	146
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.05	45.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.1	23.1	< 0.005	< 0.005	0.02	24.2

3.13. Architectural Coating (2029) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	13.7	17.5	0.04	0.54	—	0.54	0.49	—	0.49	—	4,351	4,351	0.18	0.04	—	4,366
Dust From Material Movement	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	9.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.71	1.72	< 0.005	0.17	0.17	—	36.0	36.0	< 0.005	0.01	0.08	37.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	13.7	17.5	0.04	0.54	—	0.54	0.49	—	0.49	—	4,351	4,351	0.18	0.04	—	4,366
Dust From Material Movement	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—

Architectu Coatings	9.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.71	1.72	< 0.005	0.17	0.17	—	36.1	36.1	< 0.005	0.01	< 0.005	37.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	3.76	4.79	0.01	0.15	—	0.15	0.14	—	0.14	—	1,192	1,192	0.05	0.01	—	1,196
Dust From Material Movement	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—	—	—	—
Architectu ral Coatings	2.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.44	0.44	< 0.005	0.04	0.04	—	9.88	9.88	< 0.005	< 0.005	0.01	10.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.69	0.87	< 0.005	0.03	—	0.03	0.02	—	0.02	—	197	197	0.01	< 0.005	—	198
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectu ral Coatings	0.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.64	1.64	< 0.005	< 0.005	< 0.005	1.71
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	4.22	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,026	1,026	0.01	0.04	2.66	1,041
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.27	3.57	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	973	973	0.01	0.04	0.07	985
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	271	271	< 0.005	0.01	0.32	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.05	45.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2029) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	13.7	17.5	0.04	0.54	—	0.54	0.49	—	0.49	—	4,351	4,351	0.18	0.04	—	4,366
Dust From Material Movement	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—

Architectu Coatings	9.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.71	1.72	< 0.005	0.17	0.17	—	36.0	36.0	< 0.005	0.01	0.08	37.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	13.7	17.5	0.04	0.54	—	0.54	0.49	—	0.49	—	4,351	4,351	0.18	0.04	—	4,366
Dust From Material Movement	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Architectu ral Coatings	9.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.71	1.72	< 0.005	0.17	0.17	—	36.1	36.1	< 0.005	0.01	< 0.005	37.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	3.76	4.79	0.01	0.15	—	0.15	0.14	—	0.14	—	1,192	1,192	0.05	0.01	—	1,196
Dust From Material Movement	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—	—	—	—
Architectu ral Coatings	2.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.44	0.44	< 0.005	0.04	0.04	—	9.88	9.88	< 0.005	< 0.005	0.01	10.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.69	0.87	< 0.005	0.03	—	0.03	0.02	—	0.02	—	197	197	0.01	< 0.005	—	198

Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	0.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.64	1.64	< 0.005	< 0.005	< 0.005	1.71
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	4.22	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,026	1,026	0.01	0.04	2.66	1,041
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.27	3.57	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	973	973	0.01	0.04	0.07	985
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	271	271	< 0.005	0.01	0.32	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.05	45.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequeste red	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequeste red	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	6/14/2027	11/5/2027	5.00	105	—
Grading	Grading	11/8/2027	2/18/2028	5.00	75.0	—
Building Construction	Building Construction	2/21/2028	8/10/2029	5.00	385	—
Paving	Paving	8/13/2029	12/28/2029	5.00	100	—
Architectural Coating	Architectural Coating	8/13/2029	12/28/2029	5.00	100	—

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	2.00	6.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Site Preparation	Scrapers	Diesel	Average	3.00	6.00	423	0.48
Site Preparation	Off-Highway Tractors	Diesel	Average	2.00	6.00	38.0	0.44
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Grading	Skid Steer Loaders	Diesel	Average	1.00	7.00	71.0	0.37
Grading	Surfacing Equipment	Diesel	Average	1.00	6.00	399	0.30
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Pressure Washers	Diesel	Average	2.00	6.00	14.0	0.30
Grading	Cranes	Diesel	Average	2.00	6.00	367	0.29
Grading	Welders	Diesel	Average	4.00	6.00	46.0	0.45
Building Construction	Forklifts	Electric	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Aerial Lifts	Diesel	Average	8.00	8.00	46.0	0.31
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Forklifts	Electric	Average	1.00	8.00	82.0	0.20
Architectural Coating	Graders	Diesel	Average	1.00	8.00	148	0.41
Architectural Coating	Scrapers	Diesel	Average	2.00	6.00	423	0.48

Architectural Coating	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Architectural Coating	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Architectural Coating	Trenchers	Diesel	Average	1.00	6.00	40.0	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	2.00	6.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Site Preparation	Scrapers	Diesel	Average	3.00	6.00	423	0.48
Site Preparation	Off-Highway Tractors	Diesel	Average	2.00	6.00	38.0	0.44
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Grading	Skid Steer Loaders	Diesel	Average	1.00	7.00	71.0	0.37
Grading	Surfacing Equipment	Diesel	Average	1.00	6.00	399	0.30
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Pressure Washers	Diesel	Average	2.00	6.00	14.0	0.30
Grading	Cranes	Diesel	Average	2.00	6.00	367	0.29
Grading	Welders	Diesel	Average	4.00	6.00	46.0	0.45
Building Construction	Forklifts	Electric	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37

Building Construction	Aerial Lifts	Diesel	Average	8.00	8.00	46.0	0.31
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Forklifts	Electric	Average	1.00	8.00	82.0	0.20
Architectural Coating	Graders	Diesel	Average	1.00	8.00	148	0.41
Architectural Coating	Scrapers	Diesel	Average	2.00	6.00	423	0.48
Architectural Coating	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Architectural Coating	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Architectural Coating	Trenchers	Diesel	Average	1.00	6.00	40.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	30.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	16.0	10.2	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	40.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	16.0	10.2	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	6.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	60.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	4.00	10.2	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	7.00	4.00	HHDT,MHDT
Paving	—	—	—	—
Paving	Worker	80.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	8.00	20.0	HHDT
Paving	Onsite truck	9.00	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	3.00	4.00	HHDT,MHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	30.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	16.0	10.2	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	40.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	16.0	10.2	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	6.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	60.0	18.5	LDA,LDT1,LDT2

Building Construction	Vendor	4.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	7.00	4.00	HHDT,MHDT
Paving	—	—	—	—
Paving	Worker	80.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	8.00	20.0	HHDT
Paving	Onsite truck	9.00	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	3.00	4.00	HHDT,MHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	57%	57%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	150,000	50,000	5,619

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	315	0.00	—
Grading	0.00	0.00	0.00	0.00	—
Paving	0.00	0.00	0.00	0.00	2.15
Architectural Coating	0.00	0.00	200	0.00	—

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

Land Use	Area Paved (acres)	% Asphalt
Research & Development	0.00	0%
Parking Lot	2.15	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	690	0.05	0.01
2028	196	690	0.05	0.01
2029	294	690	0.05	0.01

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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	69.6

AQ-PM	65.9
AQ-DPM	47.5
Drinking Water	92.5
Lead Risk Housing	—
Pesticides	0.00
Toxic Releases	70.0
Traffic	99.5
Effect Indicators	—
CleanUp Sites	94.3
Groundwater	36.9
Haz Waste Facilities/Generators	47.6
Impaired Water Bodies	77.3
Solid Waste	89.9
Sensitive Population	—
Asthma	8.92
Cardio-vascular	23.8
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—

Insured adults	—
Arthritis	0.0
Asthma ER Admissions	87.3
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	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	79.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
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	100.0
SLR Inundation Area	0.0
Children	99.4

Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.9
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses based off PD and updated site plan.
Construction: Construction Phases	Schedule provided by LADWP.
Construction: Off-Road Equipment	Equipment inventory provided by LADWP.
Construction: Dust From Material Movement	All earthwork balanced on-site.
Construction: Trips and VMT	Personnel & vehicle inventories provided by LADWP.
Construction: On-Road Fugitive Dust	Limit vehicle speeds on unpaved areas to 15 mph.

LADWP Headworks Project - DPR Demo Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LADWP Headworks Project - DPR Demo Construction
Construction Start Date	5/1/2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	20.2
Location	34.15343780699328, -118.31929069851039
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3974
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
Parking Lot	0.85	Acre	0.85	0.00	0.00	0.00	—	—

Research & Development	25.0	1000sqft	1.37	25,000	34,500	34,500	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-4*	Use Local and Sustainable Building Materials

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.85	22.5	31.6	0.06	0.88	11.4	11.7	0.81	1.65	2.45	—	7,533	7,533	0.30	0.17	3.46	7,594
Mit.	2.85	22.5	31.6	0.06	0.88	11.4	11.7	0.81	1.65	2.45	—	7,533	7,533	0.30	0.17	3.46	7,594
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.99	13.8	24.7	0.04	0.40	11.7	12.1	0.37	1.50	1.87	—	5,925	5,925	0.18	0.16	0.14	5,979
Mit.	2.99	13.8	24.7	0.04	0.40	11.7	12.1	0.37	1.50	1.87	—	5,925	5,925	0.18	0.16	0.14	5,979
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.14	6.28	9.53	0.02	0.20	3.64	3.84	0.18	0.50	0.69	—	2,289	2,289	0.09	0.06	0.62	2,310
Mit.	1.14	6.28	9.53	0.02	0.20	3.64	3.84	0.18	0.50	0.69	—	2,289	2,289	0.09	0.06	0.62	2,310
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.21	1.15	1.74	< 0.005	0.04	0.66	0.70	0.03	0.09	0.13	—	379	379	0.01	0.01	0.10	382
Mit.	0.21	1.15	1.74	< 0.005	0.04	0.66	0.70	0.03	0.09	0.13	—	379	379	0.01	0.01	0.10	382
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	2.85	22.5	31.6	0.06	0.88	11.4	11.7	0.81	1.65	2.45	—	7,533	7,533	0.30	0.17	3.46	7,594
2031	1.67	5.49	7.81	0.01	0.12	3.64	3.76	0.11	0.47	0.58	—	1,684	1,684	0.05	0.02	1.70	1,692
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	1.71	12.8	21.1	0.04	0.26	11.4	11.7	0.24	1.31	1.54	—	4,877	4,877	0.17	0.14	0.09	4,924
2031	2.99	13.8	24.7	0.04	0.40	11.7	12.1	0.37	1.50	1.87	—	5,925	5,925	0.18	0.16	0.14	5,979
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.83	6.28	9.53	0.02	0.20	3.64	3.84	0.18	0.50	0.69	—	2,289	2,289	0.09	0.06	0.50	2,310
2031	1.14	4.19	6.38	0.01	0.10	2.91	3.01	0.09	0.38	0.47	—	1,456	1,456	0.04	0.04	0.62	1,470
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.15	1.15	1.74	< 0.005	0.04	0.66	0.70	0.03	0.09	0.13	—	379	379	0.01	0.01	0.08	382
2031	0.21	0.76	1.16	< 0.005	0.02	0.53	0.55	0.02	0.07	0.09	—	241	241	0.01	0.01	0.10	243

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	2.85	22.5	31.6	0.06	0.88	11.4	11.7	0.81	1.65	2.45	—	7,533	7,533	0.30	0.17	3.46	7,594
2031	1.67	5.49	7.81	0.01	0.12	3.64	3.76	0.11	0.47	0.58	—	1,684	1,684	0.05	0.02	1.70	1,692
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	1.71	12.8	21.1	0.04	0.26	11.4	11.7	0.24	1.31	1.54	—	4,877	4,877	0.17	0.14	0.09	4,924

2031	2.99	13.8	24.7	0.04	0.40	11.7	12.1	0.37	1.50	1.87	—	5,925	5,925	0.18	0.16	0.14	5,979
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.83	6.28	9.53	0.02	0.20	3.64	3.84	0.18	0.50	0.69	—	2,289	2,289	0.09	0.06	0.50	2,310
2031	1.14	4.19	6.38	0.01	0.10	2.91	3.01	0.09	0.38	0.47	—	1,456	1,456	0.04	0.04	0.62	1,470
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.15	1.15	1.74	< 0.005	0.04	0.66	0.70	0.03	0.09	0.13	—	379	379	0.01	0.01	0.08	382
2031	0.21	0.76	1.16	< 0.005	0.02	0.53	0.55	0.02	0.07	0.09	—	241	241	0.01	0.01	0.10	243

3. Construction Emissions Details

3.1. Site Preparation (2030) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	8.08	12.2	0.03	0.33	—	0.33	0.31	—	0.31	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	0.41	0.41	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.07	0.04	< 0.005	< 0.005	4.56	4.56	< 0.005	0.46	0.46	—	46.7	46.7	< 0.005	0.01	0.11	48.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	1.00	1.51	< 0.005	0.04	—	0.04	0.04	—	0.04	—	366	366	0.01	< 0.005	—	367
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.53	0.53	< 0.005	0.05	0.05	—	5.76	5.76	< 0.005	< 0.005	0.01	6.02
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.18	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	60.6	60.6	< 0.005	< 0.005	—	60.8
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	—	0.95	0.95	< 0.005	< 0.005	< 0.005	1.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.49	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	379	379	< 0.005	0.01	0.89	384
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	226	226	0.01	0.03	0.54	236
Hauling	< 0.005	0.14	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	124	124	0.01	0.02	0.23	130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.9	44.9	< 0.005	< 0.005	0.05	45.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.8	27.8	< 0.005	< 0.005	0.03	29.1
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.01	16.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.44	7.44	< 0.005	< 0.005	0.01	7.53
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.81
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.53	2.53	< 0.005	< 0.005	< 0.005	2.66

3.2. Site Preparation (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	8.08	12.2	0.03	0.33	—	0.33	0.31	—	0.31	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	0.41	0.41	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.07	0.04	< 0.005	< 0.005	4.56	4.56	< 0.005	0.46	0.46	—	46.7	46.7	< 0.005	0.01	0.11	48.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.00	1.51	< 0.005	0.04	—	0.04	0.04	—	0.04	—	366	366	0.01	< 0.005	—	367
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.53	0.53	< 0.005	0.05	0.05	—	5.76	5.76	< 0.005	< 0.005	0.01	6.02
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.18	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	60.6	60.6	< 0.005	< 0.005	—	60.8
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	—	0.95	0.95	< 0.005	< 0.005	< 0.005	1.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.49	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	379	379	< 0.005	0.01	0.89	384
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	226	226	0.01	0.03	0.54	236
Hauling	< 0.005	0.14	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	124	124	0.01	0.02	0.23	130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.9	44.9	< 0.005	< 0.005	0.05	45.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.8	27.8	< 0.005	< 0.005	0.03	29.1
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.01	16.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.44	7.44	< 0.005	< 0.005	0.01	7.53
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.81
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.53	2.53	< 0.005	< 0.005	< 0.005	2.66

3.3. Grading (2030) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.74	21.7	29.8	0.06	0.87	—	0.87	0.80	—	0.80	—	6,484	6,484	0.26	0.05	—	6,507
Dust From Material Movement	—	—	—	—	—	2.26	2.26	—	0.94	0.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	5.70	5.70	< 0.005	0.57	0.57	—	58.3	58.3	< 0.005	0.01	0.13	61.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	2.67	3.67	0.01	0.11	—	0.11	0.10	—	0.10	—	799	799	0.03	0.01	—	802
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.66	0.66	< 0.005	0.07	0.07	—	7.20	7.20	< 0.005	< 0.005	0.01	7.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.49	0.67	< 0.005	0.02	—	0.02	0.02	—	0.02	—	132	132	0.01	< 0.005	—	133
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.24
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.49	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	379	379	< 0.005	0.01	0.89	384
Vendor	< 0.005	0.11	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	113	113	< 0.005	0.02	0.27	118
Hauling	0.01	0.57	0.23	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	497	497	0.02	0.08	0.90	522
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.9	44.9	< 0.005	< 0.005	0.05	45.5
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.01	14.5
Hauling	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.2	61.2	< 0.005	0.01	0.05	64.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.44	7.44	< 0.005	< 0.005	0.01	7.53
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.30	2.30	< 0.005	< 0.005	< 0.005	2.41
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.6

3.4. Grading (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.74	21.7	29.8	0.06	0.87	—	0.87	0.80	—	0.80	—	6,484	6,484	0.26	0.05	—	6,507

Dust From Material Movement	—	—	—	—	—	2.26	2.26	—	0.94	0.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	5.70	5.70	< 0.005	0.57	0.57	—	58.3	58.3	< 0.005	0.01	0.13	61.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	2.67	3.67	0.01	0.11	—	0.11	0.10	—	0.10	—	799	799	0.03	0.01	—	802
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.66	0.66	< 0.005	0.07	0.07	—	7.20	7.20	< 0.005	< 0.005	0.01	7.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.49	0.67	< 0.005	0.02	—	0.02	0.02	—	0.02	—	132	132	0.01	< 0.005	—	133
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.24
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.49	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	379	379	< 0.005	0.01	0.89	384
Vendor	< 0.005	0.11	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	113	113	< 0.005	0.02	0.27	118
Hauling	0.01	0.57	0.23	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	497	497	0.02	0.08	0.90	522

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.9	44.9	< 0.005	< 0.005	0.05	45.5
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.01	14.5
Hauling	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.2	61.2	< 0.005	0.01	0.05	64.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.44	7.44	< 0.005	< 0.005	0.01	7.53
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.30	2.30	< 0.005	< 0.005	< 0.005	2.41
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.6

3.5. Building Construction (2030) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.9	17.5	0.03	0.25	—	0.25	0.23	—	0.23	—	3,394	3,394	0.14	0.03	—	3,406
Onsite truck	< 0.005	0.15	0.09	< 0.005	< 0.005	10.3	10.3	< 0.005	1.03	1.03	—	105	105	0.01	0.01	0.24	110
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.9	17.5	0.03	0.25	—	0.25	0.23	—	0.23	—	3,394	3,394	0.14	0.03	—	3,406
Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	10.3	10.3	< 0.005	1.03	1.03	—	105	105	0.01	0.01	0.01	110

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.96	2.87	0.01	0.04	—	0.04	0.04	—	0.04	—	558	558	0.02	< 0.005	—	560
Onsite truck	< 0.005	0.03	0.01	< 0.005	< 0.005	1.59	1.59	< 0.005	0.16	0.16	—	17.3	17.3	< 0.005	< 0.005	0.02	18.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.36	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	92.4	92.4	< 0.005	< 0.005	—	92.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	2.86	2.86	< 0.005	< 0.005	< 0.005	2.99
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.20	3.96	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,010	1,010	0.01	0.04	2.37	1,024
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.40	177
Hauling	< 0.005	0.29	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.45	261
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.24	3.34	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	957	957	0.01	0.04	0.06	969
Vendor	< 0.005	0.18	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.01	177
Hauling	< 0.005	0.30	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.01	261
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.58	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	160	160	< 0.005	0.01	0.17	162
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.8	27.8	< 0.005	< 0.005	0.03	29.1
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.8	40.8	< 0.005	0.01	0.03	42.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.4	26.4	< 0.005	< 0.005	0.03	26.8

Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.81
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.76	6.76	< 0.005	< 0.005	0.01	7.09

3.6. Building Construction (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.9	17.5	0.03	0.25	—	0.25	0.23	—	0.23	—	3,394	3,394	0.14	0.03	—	3,406
Onsite truck	< 0.005	0.15	0.09	< 0.005	< 0.005	10.3	10.3	< 0.005	1.03	1.03	—	105	105	0.01	0.01	0.24	110
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.9	17.5	0.03	0.25	—	0.25	0.23	—	0.23	—	3,394	3,394	0.14	0.03	—	3,406
Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	10.3	10.3	< 0.005	1.03	1.03	—	105	105	0.01	0.01	0.01	110
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.96	2.87	0.01	0.04	—	0.04	0.04	—	0.04	—	558	558	0.02	< 0.005	—	560
Onsite truck	< 0.005	0.03	0.01	< 0.005	< 0.005	1.59	1.59	< 0.005	0.16	0.16	—	17.3	17.3	< 0.005	< 0.005	0.02	18.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.36	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	92.4	92.4	< 0.005	< 0.005	—	92.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	2.86	2.86	< 0.005	< 0.005	< 0.005	2.99

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.20	3.96	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,010	1,010	0.01	0.04	2.37	1,024
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.40	177
Hauling	< 0.005	0.29	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.45	261
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.24	3.34	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	957	957	0.01	0.04	0.06	969
Vendor	< 0.005	0.18	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.01	177
Hauling	< 0.005	0.30	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.01	261
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.58	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	160	160	< 0.005	0.01	0.17	162
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.8	27.8	< 0.005	< 0.005	0.03	29.1
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.8	40.8	< 0.005	0.01	0.03	42.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.4	26.4	< 0.005	< 0.005	0.03	26.8
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.81
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.76	6.76	< 0.005	< 0.005	0.01	7.09

3.7. Paving (2031) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	7.55	12.4	0.02	0.29	—	0.29	0.26	—	0.26	—	2,577	2,577	0.10	0.02	—	2,585
Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.19	0.11	< 0.005	< 0.005	6.29	6.29	< 0.005	0.63	0.63	—	125	125	0.01	0.02	0.01	130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.36	< 0.005	0.03	—	0.03	0.03	—	0.03	—	282	282	0.01	< 0.005	—	283
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.65	0.65	< 0.005	0.07	0.07	—	13.6	13.6	< 0.005	< 0.005	0.01	14.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.7	46.7	< 0.005	< 0.005	—	46.9
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	2.26	2.26	< 0.005	< 0.005	< 0.005	2.36
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.36	4.72	0.00	0.00	1.57	1.57	0.00	0.37	0.37	—	1,415	1,415	0.02	0.06	0.08	1,432
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	164	164	0.01	0.02	0.01	171
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.54	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	157	157	< 0.005	0.01	0.15	159
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.02	18.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.0	26.0	< 0.005	< 0.005	0.02	26.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	< 0.005	3.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2031) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	7.55	12.4	0.02	0.29	—	0.29	0.26	—	0.26	—	2,577	2,577	0.10	0.02	—	2,585

Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.19	0.11	< 0.005	< 0.005	6.29	6.29	< 0.005	0.63	0.63	—	125	125	0.01	0.02	0.01	130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.36	< 0.005	0.03	—	0.03	0.03	—	0.03	—	282	282	0.01	< 0.005	—	283
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.65	0.65	< 0.005	0.07	0.07	—	13.6	13.6	< 0.005	< 0.005	0.01	14.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.7	46.7	< 0.005	< 0.005	—	46.9
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	2.26	2.26	< 0.005	< 0.005	< 0.005	2.36
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.31	0.36	4.72	0.00	0.00	1.57	1.57	0.00	0.37	0.37	—	1,415	1,415	0.02	0.06	0.08	1,432
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	164	164	0.01	0.02	0.01	171
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.54	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	157	157	< 0.005	0.01	0.15	159
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.02	18.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.0	26.0	< 0.005	< 0.005	0.02	26.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	< 0.005	3.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2030) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	5.27	4.98	0.01	0.12	—	0.12	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.09	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	58.4	58.4	< 0.005	0.01	< 0.005	61.0

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.31	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.7	51.7	< 0.005	< 0.005	—	51.9
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.16	0.16	< 0.005	0.02	0.02	—	3.43	3.43	< 0.005	< 0.005	< 0.005	3.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.56	8.56	< 0.005	< 0.005	—	8.59
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.59
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	2.51	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	718	718	0.01	0.03	0.05	727
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	42.8	42.8	< 0.005	< 0.005	0.04	43.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.08	7.08	< 0.005	< 0.005	0.01	7.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Architectural Coating (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	5.27	4.98	0.01	0.12	—	0.12	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.09	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	58.4	58.4	< 0.005	0.01	< 0.005	61.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.31	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.7	51.7	< 0.005	< 0.005	—	51.9
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.16	0.16	< 0.005	0.02	0.02	—	3.43	3.43	< 0.005	< 0.005	< 0.005	3.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.56	8.56	< 0.005	< 0.005	—	8.59
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.59
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	2.51	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	718	718	0.01	0.03	0.05	727
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	42.8	42.8	< 0.005	< 0.005	0.04	43.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.08	7.08	< 0.005	< 0.005	0.01	7.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2031) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.25	4.98	0.01	0.11	—	0.11	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	56.5	56.5	< 0.005	0.01	0.12	59.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.25	4.98	0.01	0.11	—	0.11	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	56.6	56.6	< 0.005	0.01	< 0.005	59.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	3.13	2.96	0.01	0.07	—	0.07	0.06	—	0.06	—	524	524	0.02	< 0.005	—	526
Architectural Coatings	0.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.61	1.61	< 0.005	0.16	0.16	—	33.6	33.6	< 0.005	< 0.005	0.03	35.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.57	0.54	< 0.005	0.01	—	0.01	0.01	—	0.01	—	86.7	86.7	< 0.005	< 0.005	—	87.0

Architectural Coatings	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	5.57	5.57	< 0.005	< 0.005	0.01	5.83
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.15	2.78	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	746	746	0.01	< 0.005	1.58	749
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.18	2.36	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	707	707	0.01	0.03	0.04	716
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.11	1.47	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	427	427	< 0.005	0.02	0.41	433
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	70.7	70.7	< 0.005	< 0.005	0.07	71.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2031) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.25	4.98	0.01	0.11	—	0.11	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	56.5	56.5	< 0.005	0.01	0.12	59.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.25	4.98	0.01	0.11	—	0.11	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	56.6	56.6	< 0.005	0.01	< 0.005	59.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	3.13	2.96	0.01	0.07	—	0.07	0.06	—	0.06	—	524	524	0.02	< 0.005	—	526
Architectural Coatings	0.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.61	1.61	< 0.005	0.16	0.16	—	33.6	33.6	< 0.005	< 0.005	0.03	35.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.57	0.54	< 0.005	0.01	—	0.01	0.01	—	0.01	—	86.7	86.7	< 0.005	< 0.005	—	87.0

Architectu Coatings	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	5.57	5.57	< 0.005	< 0.005	0.01	5.83
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.15	2.78	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	746	746	0.01	< 0.005	1.58	749
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.18	2.36	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	707	707	0.01	0.03	0.04	716
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.11	1.47	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	427	427	< 0.005	0.02	0.41	433
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	70.7	70.7	< 0.005	< 0.005	0.07	71.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	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	5/1/2030	7/2/2030	5.00	45.0	—
Grading	Grading	7/3/2030	9/3/2030	5.00	45.0	—
Building Construction	Building Construction	9/4/2030	11/26/2030	5.00	60.0	—
Paving	Paving	2/3/2031	3/28/2031	5.00	40.0	—
Architectural Coating	Architectural Coating	12/2/2030	10/31/2031	5.00	240	—

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	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37

Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	6.00	423	0.48
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Off-Highway Tractors	Diesel	Average	1.00	7.00	38.0	0.44
Building Construction	Forklifts	Electric	Average	3.00	7.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Aerial Lifts	Diesel	Average	6.00	7.00	46.0	0.31
Building Construction	Rubber Tired Loaders	Diesel	Average	1.00	7.00	150	0.36
Building Construction	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Building Construction	Skid Steer Loaders	Diesel	Average	1.00	7.00	71.0	0.37
Building Construction	Surfacing Equipment	Diesel	Average	1.00	6.00	399	0.30
Building Construction	Excavators	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Surfacing Equipment	Diesel	Average	1.00	7.00	399	0.30
Paving	Trenchers	Diesel	Average	1.00	7.00	40.0	0.50
Paving	Graders	Diesel	Average	1.00	8.00	148	0.41
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Forklifts	Electric	Average	4.00	8.00	82.0	0.20
Architectural Coating	Generator Sets	Diesel	Average	3.00	8.00	14.0	0.74
Architectural Coating	Welders	Diesel	Average	1.00	7.00	46.0	0.45

Architectural Coating	Aerial Lifts	Diesel	Average	3.00	7.00	46.0	0.31

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	6.00	423	0.48
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Off-Highway Tractors	Diesel	Average	1.00	7.00	38.0	0.44
Building Construction	Forklifts	Electric	Average	3.00	7.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Aerial Lifts	Diesel	Average	6.00	7.00	46.0	0.31
Building Construction	Rubber Tired Loaders	Diesel	Average	1.00	7.00	150	0.36
Building Construction	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Building Construction	Skid Steer Loaders	Diesel	Average	1.00	7.00	71.0	0.37
Building Construction	Surfacing Equipment	Diesel	Average	1.00	6.00	399	0.30
Building Construction	Excavators	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42

Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Surfacing Equipment	Diesel	Average	1.00	7.00	399	0.30
Paving	Trenchers	Diesel	Average	1.00	7.00	40.0	0.50
Paving	Graders	Diesel	Average	1.00	8.00	148	0.41
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Forklifts	Electric	Average	4.00	8.00	82.0	0.20
Architectural Coating	Generator Sets	Diesel	Average	3.00	8.00	14.0	0.74
Architectural Coating	Welders	Diesel	Average	1.00	7.00	46.0	0.45
Architectural Coating	Aerial Lifts	Diesel	Average	3.00	7.00	46.0	0.31

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	30.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	8.00	10.2	HHDT,MHDT
Site Preparation	Hauling	2.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	30.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	4.00	10.2	HHDT,MHDT
Grading	Hauling	8.00	20.0	HHDT
Grading	Onsite truck	5.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	80.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	6.00	10.2	HHDT,MHDT

Building Construction	Hauling	4.00	20.0	HHDT
Building Construction	Onsite truck	9.00	4.00	HHDT,MHDT
Paving	—	—	—	—
Paving	Worker	120	18.5	LDA,LDT1,LDT2
Paving	Vendor	6.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	11.0	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	60.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	5.00	4.00	HHDT,MHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	30.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	8.00	10.2	HHDT,MHDT
Site Preparation	Hauling	2.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	30.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	4.00	10.2	HHDT,MHDT
Grading	Hauling	8.00	20.0	HHDT
Grading	Onsite truck	5.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	80.0	18.5	LDA,LDT1,LDT2

Building Construction	Vendor	6.00	10.2	HHDT,MHDT
Building Construction	Hauling	4.00	20.0	HHDT
Building Construction	Onsite truck	9.00	4.00	HHDT,MHDT
Paving	—	—	—	—
Paving	Worker	120	18.5	LDA,LDT1,LDT2
Paving	Vendor	6.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	11.0	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	60.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	5.00	4.00	HHDT,MHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	57%	57%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	37,500	12,500	2,222

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	67.5	0.00	—
Grading	0.00	0.00	113	0.00	—
Paving	0.00	0.00	20.0	0.00	0.85

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

Land Use	Area Paved (acres)	% Asphalt
Parking Lot	0.85	100%
Research & Development	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2030	648	690	0.05	0.01
2031	391	690	0.05	0.01

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	2	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	2	0	N/A
Wildfire	1	2	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	2	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	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	2	1	3
Wildfire	1	2	1	3
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	2	1	3

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

6.4.1. Temperature and Extreme Heat

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
MH-23: Landscape with Climate Considerations	Improved Ecosystem Health, Water Conservation	—	1.00	—

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	69.6
AQ-PM	65.9
AQ-DPM	47.5
Drinking Water	92.5
Lead Risk Housing	—
Pesticides	0.00
Toxic Releases	70.0
Traffic	99.5
Effect Indicators	—
CleanUp Sites	94.3
Groundwater	36.9
Haz Waste Facilities/Generators	47.6
Impaired Water Bodies	77.3
Solid Waste	89.9
Sensitive Population	—
Asthma	8.92
Cardio-vascular	23.8
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—

Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	87.3
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	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	79.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
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	100.0
SLR Inundation Area	0.0

Children	99.4
Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.9
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses based on PD and site plan.
Construction: Construction Phases	Construction schedule provided by LADWP.
Construction: Off-Road Equipment	Equipment inventory provided by LADWP.
Construction: Dust From Material Movement	All earthwork will be balanced on site.
Construction: On-Road Fugitive Dust	Limit vehicle speeds on unpaved roads to 15 mph (SCAQMD Rule 403).
Construction: Trips and VMT	Vehicle and personnel inventories provided by LADWP.

LADWP Headworks Project - Operations Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LADWP Headworks Project - Operations
Operational Year	2031
Lead Agency	LADWP
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	20.2
Location	34.15285671760434, -118.3170842391024
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3974
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
Research & Development	100	1000sqft	4.85	100,000	111,500	111,500	—	—

Research & Development	25.0	1000sqft	1.37	25,000	34,500	34,500	—	—
City Park	17.5	Acre	17.5	0.00	387,830	387,830	—	—
Parking Lot	6.00	Acre	6.00	0.00	13,000	13,000	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-34*	Provide Bike Parking
Energy	E-21*	Install Cool Pavements

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.54	1.26	11.5	0.01	0.07	0.94	1.01	0.06	0.24	0.30	124	7,018	7,142	13.2	0.40	5.11	7,597
Mit.	5.54	1.26	11.5	0.01	0.07	0.94	1.01	0.06	0.24	0.30	124	7,018	7,142	13.2	0.40	5.11	7,597
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.64	1.26	6.22	0.01	0.06	0.94	1.00	0.06	0.24	0.30	124	6,957	7,081	13.2	0.41	3.24	7,535
Mit.	4.64	1.26	6.22	0.01	0.06	0.94	1.00	0.06	0.24	0.30	124	6,957	7,081	13.2	0.41	3.24	7,535

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.24	1.29	9.96	0.01	0.06	0.93	1.00	0.06	0.24	0.30	124	6,983	7,106	13.2	0.41	4.02	7,561
Mit.	5.24	1.29	9.96	0.01	0.06	0.93	1.00	0.06	0.24	0.30	124	6,983	7,106	13.2	0.41	4.02	7,561
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.96	0.24	1.82	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	20.5	1,156	1,177	2.19	0.07	0.67	1,252
Mit.	0.96	0.24	1.82	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	20.5	1,156	1,177	2.19	0.07	0.67	1,252
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	3,000
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	Yes
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	Yes
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	3,000
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	Yes
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	Yes

2.5. Operations Emissions by Sector, Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.36	0.54	5.54	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,029	1,029	0.09	0.06	1.91	1,052
Area	4.15	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	5.54	1.26	11.5	0.01	0.07	0.94	1.01	0.06	0.24	0.30	124	7,018	7,142	13.2	0.40	5.11	7,597
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.35	0.59	5.65	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	990	990	0.10	0.07	0.05	1,012
Area	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	4.64	1.26	6.22	0.01	0.06	0.94	1.00	0.06	0.24	0.30	124	6,957	7,081	13.2	0.41	3.24	7,535
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.33	0.59	5.67	0.01	0.01	0.93	0.94	0.01	0.24	0.24	—	1,001	1,001	0.09	0.07	0.83	1,023
Area	3.87	0.03	3.72	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	5.24	1.29	9.96	0.01	0.06	0.93	1.00	0.06	0.24	0.30	124	6,983	7,106	13.2	0.41	4.02	7,561

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.24	0.11	1.03	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	166	166	0.02	0.01	0.14	169
Area	0.71	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Energy	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	828	828	0.06	0.01	—	832
Water	—	—	—	—	—	—	—	—	—	—	19.5	159	179	2.01	0.05	—	244
Waste	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.44
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	0.96	0.24	1.82	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	20.5	1,156	1,177	2.19	0.07	0.67	1,252

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.36	0.54	5.54	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,029	1,029	0.09	0.06	1.91	1,052
Area	4.15	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	5.54	1.26	11.5	0.01	0.07	0.94	1.01	0.06	0.24	0.30	124	7,018	7,142	13.2	0.40	5.11	7,597
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.35	0.59	5.65	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	990	990	0.10	0.07	0.05	1,012
Area	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472

Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	4.64	1.26	6.22	0.01	0.06	0.94	1.00	0.06	0.24	0.30	124	6,957	7,081	13.2	0.41	3.24	7,535
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.33	0.59	5.67	0.01	0.01	0.93	0.94	0.01	0.24	0.24	—	1,001	1,001	0.09	0.07	0.83	1,023
Area	3.87	0.03	3.72	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	5.24	1.29	9.96	0.01	0.06	0.93	1.00	0.06	0.24	0.30	124	6,983	7,106	13.2	0.41	4.02	7,561
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.24	0.11	1.03	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	166	166	0.02	0.01	0.14	169
Area	0.71	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Energy	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	828	828	0.06	0.01	—	832
Water	—	—	—	—	—	—	—	—	—	—	19.5	159	179	2.01	0.05	—	244
Waste	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.44
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	0.96	0.24	1.82	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	20.5	1,156	1,177	2.19	0.07	0.67	1,252

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.34	0.53	5.30	0.01	0.01	0.86	0.86	0.01	0.22	0.22	—	948	948	0.09	0.06	1.74	970
City Park	0.02	0.02	0.25	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	81.2	81.2	< 0.005	< 0.005	0.17	82.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.36	0.54	5.54	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,029	1,029	0.09	0.06	1.91	1,052
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.33	0.57	5.44	0.01	0.01	0.86	0.86	0.01	0.22	0.22	—	913	913	0.09	0.06	0.05	934
City Park	0.02	0.02	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	77.5	77.5	< 0.005	< 0.005	< 0.005	78.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.35	0.59	5.65	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	990	990	0.10	0.07	0.05	1,012
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.24	0.10	0.99	< 0.005	< 0.005	0.15	0.16	< 0.005	0.04	0.04	—	153	153	0.02	0.01	0.12	156
City Park	< 0.005	< 0.005	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	13.0	13.0	< 0.005	< 0.005	0.01	13.1
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.24	0.11	1.03	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	166	166	0.02	0.01	0.14	169

4.1.2. Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.34	0.53	5.30	0.01	0.01	0.86	0.86	0.01	0.22	0.22	—	948	948	0.09	0.06	1.74	970
City Park	0.02	0.02	0.25	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	81.2	81.2	< 0.005	< 0.005	0.17	82.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.36	0.54	5.54	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,029	1,029	0.09	0.06	1.91	1,052
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.33	0.57	5.44	0.01	0.01	0.86	0.86	0.01	0.22	0.22	—	913	913	0.09	0.06	0.05	934
City Park	0.02	0.02	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	77.5	77.5	< 0.005	< 0.005	< 0.005	78.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.35	0.59	5.65	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	990	990	0.10	0.07	0.05	1,012
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.24	0.10	0.99	< 0.005	< 0.005	0.15	0.16	< 0.005	0.04	0.04	—	153	153	0.02	0.01	0.12	156
City Park	< 0.005	< 0.005	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	13.0	13.0	< 0.005	< 0.005	0.01	13.1
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.24	0.11	1.03	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	166	166	0.02	0.01	0.14	169

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,766	3,766	0.27	0.04	—	3,784
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	433	433	0.03	< 0.005	—	435
Total	—	—	—	—	—	—	—	—	—	—	—	4,199	4,199	0.30	0.04	—	4,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,766	3,766	0.27	0.04	—	3,784
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	433	433	0.03	< 0.005	—	435
Total	—	—	—	—	—	—	—	—	—	—	—	4,199	4,199	0.30	0.04	—	4,219
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	624	624	0.04	0.01	—	626
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	71.7	71.7	0.01	< 0.005	—	72.0
Total	—	—	—	—	—	—	—	—	—	—	—	695	695	0.05	0.01	—	699

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,766	3,766	0.27	0.04	—	3,784
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	433	433	0.03	< 0.005	—	435
Total	—	—	—	—	—	—	—	—	—	—	—	4,199	4,199	0.30	0.04	—	4,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,766	3,766	0.27	0.04	—	3,784
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	433	433	0.03	< 0.005	—	435
Total	—	—	—	—	—	—	—	—	—	—	—	4,199	4,199	0.30	0.04	—	4,219
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	624	624	0.04	0.01	—	626
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	71.7	71.7	0.01	< 0.005	—	72.0
Total	—	—	—	—	—	—	—	—	—	—	—	695	695	0.05	0.01	—	699

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	134
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	134

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	134
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	134

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.89	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Total	4.15	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.11	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Total	0.71	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54

4.3.2. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.89	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Total	4.15	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.11	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Total	0.71	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	118	837	955	12.1	0.30	—	1,346
City Park	—	—	—	—	—	—	—	—	—	—	0.00	121	121	0.01	< 0.005	—	122
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	4.07	4.07	< 0.005	< 0.005	—	4.09
Total	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	118	837	955	12.1	0.30	—	1,346

City Park	—	—	—	—	—	—	—	—	—	—	0.00	121	121	0.01	< 0.005	—	122
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	4.07	4.07	< 0.005	< 0.005	—	4.09
Total	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	19.5	139	158	2.01	0.05	—	223
City Park	—	—	—	—	—	—	—	—	—	—	0.00	20.1	20.1	< 0.005	< 0.005	—	20.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.67	0.67	< 0.005	< 0.005	—	0.68
Total	—	—	—	—	—	—	—	—	—	—	19.5	159	179	2.01	0.05	—	244

4.4.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	118	837	955	12.1	0.30	—	1,346
City Park	—	—	—	—	—	—	—	—	—	—	0.00	121	121	0.01	< 0.005	—	122
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	4.07	4.07	< 0.005	< 0.005	—	4.09
Total	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	118	837	955	12.1	0.30	—	1,346

City Park	—	—	—	—	—	—	—	—	—	—	0.00	121	121	0.01	< 0.005	—	122
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	4.07	4.07	< 0.005	< 0.005	—	4.09
Total	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	19.5	139	158	2.01	0.05	—	223
City Park	—	—	—	—	—	—	—	—	—	—	0.00	20.1	20.1	< 0.005	< 0.005	—	20.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.67	0.67	< 0.005	< 0.005	—	0.68
Total	—	—	—	—	—	—	—	—	—	—	19.5	159	179	2.01	0.05	—	244

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	5.12	0.00	5.12	0.51	0.00	—	17.9
City Park	—	—	—	—	—	—	—	—	—	—	0.81	0.00	0.81	0.08	0.00	—	2.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	5.12	0.00	5.12	0.51	0.00	—	17.9
City Park	—	—	—	—	—	—	—	—	—	—	0.81	0.00	0.81	0.08	0.00	—	2.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	0.85	0.00	0.85	0.08	0.00	—	2.97
City Park	—	—	—	—	—	—	—	—	—	—	0.13	0.00	0.13	0.01	0.00	—	0.47
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.44

4.5.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	5.12	0.00	5.12	0.51	0.00	—	17.9
City Park	—	—	—	—	—	—	—	—	—	—	0.81	0.00	0.81	0.08	0.00	—	2.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	5.12	0.00	5.12	0.51	0.00	—	17.9
City Park	—	—	—	—	—	—	—	—	—	—	0.81	0.00	0.81	0.08	0.00	—	2.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	0.85	0.00	0.85	0.08	0.00	—	2.97
City Park	—	—	—	—	—	—	—	—	—	—	0.13	0.00	0.13	0.01	0.00	—	0.47
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.44

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53

4.6.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	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

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	580	580	580	211,700	1,051	1,051	1,051	383,615

Research & Development	16.0	16.0	16.0	5,840	159	159	159	58,195
City Park	12.1	12.1	12.1	4,407	120	120	120	43,919
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	580	580	580	211,700	1,051	1,051	1,051	383,615
Research & Development	16.0	16.0	16.0	5,840	159	159	159	58,195
City Park	12.1	12.1	12.1	4,407	120	120	120	43,919
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	187,500	62,500	15,682

5.10.3. Landscape Equipment

Season	Unit	Value

Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	1,592,875	690	0.0489	0.0069	2,009,186
Research & Development	398,219	690	0.0489	0.0069	502,296
City Park	0.00	690	0.0489	0.0069	0.00
Parking Lot	228,951	690	0.0489	0.0069	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	1,592,875	690	0.0489	0.0069	2,009,186
Research & Development	398,219	690	0.0489	0.0069	502,296
City Park	0.00	690	0.0489	0.0069	0.00
Parking Lot	228,951	690	0.0489	0.0069	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	49,169,395	3,474,980
Research & Development	12,292,349	1,075,218
City Park	0.00	12,087,009
Parking Lot	0.00	405,155

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	49,169,395	3,474,980
Research & Development	12,292,349	1,075,218
City Park	0.00	12,087,009
Parking Lot	0.00	405,155

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	7.60	—
Research & Development	1.90	—
City Park	1.50	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	7.60	—
Research & Development	1.90	—
City Park	1.50	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	2	3	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	2	2	2
Wildfire	2	2	2	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	5	2	3	3

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	1	1	3	1
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	2	2	2
Wildfire	2	2	2	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	2	3	3

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

6.4.1. Temperature and Extreme Heat

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
EH-9: Expand Urban Tree Canopy	Energy and Fuel Savings, Improved Air Quality, Improved Public Health, Social Equity	1.00	1.00	—
MH-23: Landscape with Climate Considerations	Improved Ecosystem Health, Water Conservation	—	1.00	—

MH-39: Implement Pervious and Climate-Smart Surfaces	Energy and Fuel Savings, Improved Air Quality, Improved Ecosystem Health, Improved Public Health, Water Conservation	—	1.00	—

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	69.6
AQ-PM	65.9
AQ-DPM	47.5
Drinking Water	92.5
Lead Risk Housing	—
Pesticides	0.00
Toxic Releases	70.0
Traffic	99.5
Effect Indicators	—
CleanUp Sites	94.3
Groundwater	36.9
Haz Waste Facilities/Generators	47.6
Impaired Water Bodies	77.3
Solid Waste	89.9
Sensitive Population	—
Asthma	8.92
Cardio-vascular	23.8

Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—

Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	87.3
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	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	79.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0

Pedestrian Injuries	0.0
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	100.0
SLR Inundation Area	0.0
Children	99.4
Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.9
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	—

Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

Measure Title	Co-Benefits Achieved
PH-2: Increase Urban Tree Canopy and Green Spaces	Energy and Fuel Savings, Enhanced Energy Security, Improved Air Quality, Improved Ecosystem Health, Improved Public Health, Social Equity
IC-4: Enhanced Open and Green Spaces	Improved Ecosystem Health, Improved Public Health, Social Equity, Water Conservation

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses based on updated PD & site plan.
Operations: Vehicle Data	Trips from traffic memo: 608 total daily, 580 WQL, 159 DPR, 120 Park.
Operations: Fleet Mix	No medium or heavy-duty trucks for Park patrons.

APPENDIX D

Energy Impact Study

HEADWORKS SITE DEVELOPMENT PROJECT

Energy Impact Study

Prepared for:

Michael Baker International

Prepared by:

Terry A. Hayes Associates Inc.

January 2024

taha environmental planners

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1.0 SUMMARY OF FINDINGS

Terry A. Hayes Associates Inc. (TAHA) completed an Energy Impact Study (Study) for the Headworks Site Development Project (proposed project) located in the City of Los Angeles (City). The Study analyzes environmental impacts related to energy resources that would occur during construction and future operation of the proposed project in accordance with the California Environmental Quality Act (CEQA) Statutes and Guidelines. The determination of potentially significant impacts is framed through addressing the Environmental Checklist criteria outlined in Appendix G of the CEQA Guidelines. **Table 1-1** presents the Appendix G criteria for Energy Resources and discloses the conclusions of the Study for the proposed project. Potential impacts related to energy resources were determined to be less-than-significant and no mitigation measures are required.

TABLE 1-1: SUMMARY OF IMPACT STATEMENTS

Impact Statement	Proposed Project Level of Significance	Applicable Mitigation Measures
Would the proposed project result in potentially significant environment impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	Less-Than-Significant Impact	None
Would the proposed project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	Less-Than-Significant Impact	None
SOURCE: TAHA, 2024.		

2.0 INTRODUCTION

2.1 STUDY PURPOSE

This Study compares the proposed project characteristics with applicable regulations, plans, and policies related to renewable energy or energy efficiency to determine if the proposed project would result in wasteful, inefficient, or unnecessary consumption of energy resources.

2.2 PROJECT DESCRIPTION

The proposed water quality lab (WQL) would include approximately 100,000 gross square feet of floor space; surface parking for 12 visitor vehicles, 102 staff vehicles, and 20 Los Angeles Department of Water and Power (LADWP) fleet vehicles; a mobile laboratory trailer; landscaping; and other site improvements. It would be located to the east of the Direct Potable Reuse (DPR) Demonstration Facility at the Headworks Spreading Grounds (HWSG) property. The facility would also be designed to meet Mayor Garcetti's Resilience by Design Directive by obtaining Leadership in Energy and Environmental Design (LEED) gold certification, with the objective to achieve LEED Platinum certification and Envision Sustainable Infrastructure certification. The facility would also include a green roof, which would be covered with vegetation to reduce heat and capture stormwater. The building would achieve energy efficiency by implementing strategies including building orientation, high-performance building envelope, and effective daylighting complemented by high performance lighting and high efficiency heating, ventilation, and air conditioning (HVAC) systems. The proposed project would include EV charging stations in compliance with Los Angeles Department of Building and Safety (LADBS) Electric Vehicle Charging Stations (EVCS) requirements. It would incorporate recycled material in all aspects of the building construction to promote a sustainable supply chain. All lighting and lighting controls for the facility would comply with the latest version of the Building Energy Efficiency Standard (Title 24) and the California Green Building Standard Code.

The DPR Demonstration Facility would be an advanced water purification facility (AWPF). The AWPF and support facilities and areas would be approximately 20,000 square feet, with an additional 20,000 square feet for a surrounding vehicle access road. A visitor center and a parking lot would also be provided. The visitor center would be approximately 5,000 square feet, and a parking lot would require approximately 16,500 square feet to accommodate staff and visitors. The DPR Demonstration Facility and visitor center would be located at the at the west end of the HWSG property.

The centerpiece of Headworks Park would be the West Reservoir Gardens, constructed on top of the approximately eight-acre West Reservoir, which will have been covered with several feet of soil to enable planting. Surrounding the reservoir garden and extending into other portions of the HWSG property would be a series of pedestrian, bicycle, and equestrian pathways, including the Headworks segment of the Los Angeles River Trail. The park would be developed in the eastern portion of the property, atop the West Reservoir, with other park features, including parking, a pavilion building, trails and site landscaping, located in adjacent areas.

The primary vehicular access to the Headworks site for all the proposed project components would be from Forest Lawn Drive at Mount Sinai Drive. Secondary access for employee, service, and maintenance vehicles would be provided from Forest Lawn Drive at the west end of the Headworks site. Public access to the Headworks site, would be limited to dawn to dusk.

Figure 2-1 shows the regional location of the proposed project. **Figure 2-2** shows the site plan.

Source: AECOM, 2021.

TAHA 2021-041

Headworks Site Development Project
Energy Impact Study

MICHAEL BAKER INTERNATIONAL

FIGURE 2-1

REGIONAL LOCATION

Legend

1. Headworks Park (Proposed)
2. Headworks Park - Pavilion Gateway (Proposed)
3. Headworks Park - Parking Lot (Proposed)
4. LA River Trail Segment (Proposed)
5. Access Road (Proposed)
6. Equestrian Tunnel (Existing)
7. Connection to Griffith Park (Existing)
8. Water Quality Lab (Proposed)
9. DPR Demonstration Facility (Proposed)
10. DPR Demonstration Facility Visitor Center (Proposed)
11. East Reservoir (Existing)
12. Flow Control Station (In Construction)

Source: LADWP, 2024.

FIGURE 2-2

PROJECT LOCATION

2.3 CONSTRUCTION SCHEDULE

Construction of the proposed project is anticipated to begin in the fourth quarter of 2024 with the Headworks Restoration Park, which would take approximately 3.3 years to complete, concluding in the first quarter of 2028. The construction of the proposed WQL would begin in the second quarter of 2027, overlapping the last phases of the park construction by approximately 9 months. The proposed WQL construction would take approximately 2.5 years to complete, concluding in the first quarter of 2030. Construction of the proposed DPR Demonstration Facility would follow in succession, starting in the second quarter of 2030 and ending in the fourth quarter of 2031, a period of approximately 1.5 years. Accounting for overlaps in the construction periods for the project components, the total construction time for the proposed project would be approximately 7 years, from late 2024 to late 2031. Construction activities would typically occur Monday through Friday during the daytime hours, beginning no earlier than 7:00 a.m. and generally ending by 5:00 p.m. Saturday construction may also be required at times.

3.0 ENERGY RESOURCES

This section describes the regulatory framework of applicable rules, regulations, plans, and guidance related to energy resources; discusses the existing energy environment and quantifies and evaluates energy use associated with construction and operations of the proposed project.

3.1 REGULATORY FRAMEWORK

3.1.1 Federal

Energy Policy and Conservation Acts

The Federal Energy Policy and Conservation Act of 1975, the Federal Energy Policy Act of 2005, and the Energy Independence and Security Act of 2007 require the United States Department of Energy to set electrical efficiency standards of various appliances, fixtures, and equipment. The Energy Independence and Security Act of 2007 includes standards for an increased Corporate Average Fuel Economy standard of 35 miles per gallon for the combined fleet of cars and light trucks by the 2020 model year, in addition to provisions for Renewable Fuel Standard, Appliance and Lighting Efficiency Standards, and Building Energy Efficiency. The Act includes standards for general service lighting that will require lightbulbs to consume 60 percent less energy by 2020. This standard is leading to the phasing out of incandescent lightbulbs to be replaced by more efficient lighting. Other provisions address energy savings in government and public institutions; promote research for alternative energy, carbon capture, and international energy programs; and create green jobs.

Corporate Average Fuel Economy Standards

Established by the US Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and United States Environmental Protection Agency (USEPA) jointly administer CAFE standards. The CAFE standards must be set at the “maximum feasible level” with consideration given to: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy. Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by USEPA and NHTSA. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. USEPA and NHTSA have also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type.

3.1.2 State

California Public Utilities Commission

The California Public Utilities Commission (CPUC) has authority to set electric rates, regulate natural gas utility service, protect consumers, promote energy efficiency, and ensure electric system reliability. The CPUC has established rules for the planning and construction of new transmission facilities, distribution facilities, and substations. Utility companies are required to obtain permits to construct certain power line facilities or substations. The CPUC also has jurisdiction over the siting of natural gas transmission lines.

The CPUC regulates distributed energy generation policies and programs for both customers and utilities. This includes incentive programs (e.g., California Solar Initiative) and net energy metering policies. Net energy metering allows customers to receive a financial credit for power generated by their on-site system and fed back to the utility. The CPUC is involved with utilities through a variety of energy procurement programs, including the Renewable Portfolio Standard program.

In 2008, the CPUC adopted the Long-Term Energy Efficiency Strategic Plan, which is a road map to achieving maximum energy savings in California. Consistent with California's energy policy and electricity "loading order," the Energy Efficiency Strategic Plan indicates that energy efficiency is the highest priority resource in meeting California's energy needs. The CPUC has adopted goals that all new commercial construction in California will be zero net energy by 2030 and 50 percent of existing commercial buildings will be retrofit to zero net energy by 2030.

California Energy Commission

The California Energy Commission (CEC) is primary energy policy and planning agency in California. Created by the California Legislature in 1974, the CEC has five major responsibilities: (1) forecasting future energy needs and keeping historical energy data; (2) licensing thermal power plants 50 megawatts (MW) or larger; (3) promoting energy efficiency through appliance and building standards; (4) developing energy technologies and supporting renewable energy; and (5) planning for and directing State response to energy emergencies. Senate Bill (SB) 1389 requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the electricity, natural gas, and transportation fuel sectors in California, and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the State economy; and protect public health and safety. The 2019 Integrated Energy Policy Report provides the results of the CEC assessments of a variety of energy topics in California, including electricity sector trends, building decarbonization and energy efficiency, zero-emission vehicles, energy equity, climate change adaptation, electricity reliability in Southern California, natural gas assessment, and electricity, natural gas, and transportation energy demand forecasts.

Title 24, Building Standards Code and CALGreen Code

The CEC first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the State. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. Part 11 of the Title 24 Building Standards is referred to as the California Green Building Standards (CALGreen) Code and was developed to help the State achieve its GHG reduction goals under HSC Division 25.5 by codifying standards for reducing building-related energy, water, and resource demand, which in turn reduces GHG emissions from energy, water, and resource demand. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality." The CALGreen Code is not intended to substitute for or be identified as meeting the certification requirements of any green building program that is not administered and adopted by the California Building Standards Commission. The CALGreen Code established mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality.

The 2022 Title 24 Standards became effective in January 2023. The 2022 standards continue to improve upon the previous (2019) Title 24 standards for new construction of, and additions and alterations to, residential and non-residential buildings. The Title 24 Standards, the standards ensure that builders use the most energy efficient and energy conserving technologies and construction practices. Compliance with Title 24 is enforced through the building permit process.

Renewables Portfolio Standard

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017 as a Renewables Portfolio Standard (RPS). Subsequent amendments provided additional targets throughout the years. Most recently, on October 7, 2015, SB 350 (Chapter 547, Statues of 2015), also known as the Clean Energy and Pollution Reduction Act, further increased the RPS to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. SB 350 also requires the State to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. On September 10, 2018, SB 100 promulgated additional RPS targets of 44 percent by 2024, 52 percent by 2027, and 60 percent by 2030, and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by 2045.

California Low Carbon Fuel Standard

Executive Order S-01-07 was enacted on January 18, 2007 to reduce the carbon intensity of California's transportation fuels. The final regulation was approved by the Office of Administrative Law and filed with the Secretary of State on January 12, 2010; the LCFS became effective on the same day. In September 2015, CARB approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted.

Regional

Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

The Southern California Association of Governments (SCAG) adopted the 2020–2045 RTP/SCS in October 2020. This vision for the region incorporates a range of best practices for increasing transportation choices, reducing dependence on personal automobiles, further improving air quality, and encouraging growth in walkable, mixed-use communities with ready access to transit infrastructure and employment. More and varied housing types and employment opportunities would be located in and near job centers, transit stations and walkable neighborhoods where goods and services are easily accessible via shorter trips. To support shorter trips, people would have the choice of using neighborhood bike networks, car share or micro-mobility services like shared bicycles or scooters. For longer commutes, people would have expanded regional transit services and more employer incentives to carpool or vanpool. Other longer trips would be supported by on-demand services such as microtransit, carshare, and citywide partnerships with ride hailing services. For those that choose to drive, hotspots of congestion would be less difficult to navigate due to cordon pricing and using an electric vehicle will be easier thanks to an expanded regional charging network.

The 2020–2045 RTP/SCS states that the SCAG region was home to about 18.8 million people in 2016 and currently includes approximately 6.0 million homes and 8.4 million jobs. By 2045, the integrated growth forecast projects that these figures will increase by 3.7 million people, with nearly 1.6 million more homes and 1.6 million more jobs. Transit Priority Areas will account for less than 1 percent of regional total land but are projected to accommodate 30 percent of future household growth between 2016 and 2045. The 2020–2045 RTP/SCS overall land use pattern reinforces the trend of focusing new housing and employment in the region's TPAs. TPAs are a cornerstone of land use planning best practice in the SCAG region because they concentrate roadway repair investments, leverage transit and active transportation investments, reduce regional life cycle infrastructure costs, improve accessibility, create local jobs, and have the potential to improve public health and housing affordability.

3.1.4 Local

LADWP Power Strategic Long-Term Resource Plan

The 2022 Power Strategic Long-Term Resource Plan (SLTRP) serves as a comprehensive roadmap through 2045 that guides LADWP Power System in its efforts to supply reliable electricity in an environmentally responsible and cost-effective manner. The 2022 SLTRP is largely driven by Mayoral directives and City Council motions that instructed LADWP to prepare an SLTRP to achieve 100 percent carbon-free energy by 2035. Previous SLTRPs, including the most recent 2017 SLTRP, only considered incremental updates in clean energy objectives which reflected the general cadence of development within the power utility industry. The 2022 SLTRP includes numerous updates related to new renewable projects, associated transmission upgrade cost and fuel cost assumptions, staffing requirements, and several other critical updates. The SLTRP uses system modeling tools to analyze and determine the long-term economic, environmental, and operational impact of alternative resource portfolios by simulating the integration of new resource alternatives within LADWP's existing mix of assets and providing the analytic results to inform the selection of a recommended case that considers various factors such as minimal adverse rate impacts on customers, prioritizing environmental stewardship and equity, and maintaining reliability and resiliency.

Green New Deal

The City of Los Angeles first addressed the issue of global climate change in *GreenLA, An Action Plan to Lead the Nation in Fighting Global Warming* ("LA Green Plan/ClimateLA") in 2007. This document outlines the goals and actions the City has identified to conserve energy and reduce the generation and emission of greenhouse gases (GHG) from both public and private activities. On April 8, 2015, Mayor Eric Garcetti released Los Angeles' first ever *Sustainable City pLAn* (the *pLAn*). The *pLAn* sets the course for a cleaner environment and stronger economy, with commitment to equity as its foundation. The pLAn is made up of short term (2017 horizon) and long term (2025 and 2035 horizons) targets in various topic areas, including: water, solar power, energy-efficient buildings, carbon and climate leadership, waste and landfills, housing and development, mobility and transit, and air quality, among others.

In April 2019, the *Green New Deal (Sustainable City Plan 2019)*, was released, consisting of a program of actions designed to create sustainability-based performance targets through 2050 designed to advance economic, environmental, and equity objectives. L.A.'s Green New Deal is the first four-year update to the City's first Sustainable City pLAn that was released in 2015. It augments, expands, and elaborates L.A.'s vision for a sustainable future and tackles the climate emergency with accelerated targets and new aggressive goals. These include the following near-term outcomes:

- Reduce potable water use per capita by 22.5 percent by 2025; 25 percent by 2035; and maintain or reduce 2035 per capita water use through 2050.
- Reduce building energy use per square feet for all building types 22 percent by 2025; 34 percent by 2035; and 44 percent by 2050.
- All new buildings will be net zero carbon by 2030 and 100 percent of buildings will be net zero carbon by 2050.

- Ensure proportion of Angelenos living within 1/2 mile of a park or open space is at least 65 percent by 2025; 75 percent by 2035; and 100 percent by 2050.

City of Los Angeles Green Building Code

On December 11, 2019, the Los Angeles City Council approved Ordinance No. 186,488, which amended Chapter IX of the Los Angeles Municipal Code, referred to as the Los Angeles Green Building Code, by adding a new Article 9 to incorporate various provisions of the 2019 CALGreen Code. Projects filed on or after January 1, 2020, must comply with the provisions of the Los Angeles Green Building Code. Specific mandatory requirements and elective measures are provided for three categories: (1) low-rise residential buildings; (2) nonresidential and high-rise residential buildings; and (3) additions and alterations to nonresidential and high-rise residential buildings. Article 9, Division 5 includes mandatory measures for newly constructed nonresidential and high-rise residential buildings.

3.2 EXISTING SETTING

California contains abundant sources of nonrenewable and renewable energy. Nonrenewable resources include large crude oil and natural gas deposits that are located within six geological basins in the Central Valley and along the coast. Much of these reserves are concentrated in the southern San Joaquin Basin. Regarding renewable resources, the State leads the nation in net electricity generation from solar, geothermal, and biomass. California has considerable solar potential, especially in the southeastern deserts and several of the world's largest solar thermal plants are located in California's Mojave Desert. Although California's wind power potential is widespread, especially along the eastern and southern mountain ranges, much of the State is excluded from development of this resource because it is in wilderness areas, parks, or urban areas. The transportation sector is responsible for the most energy consumption of any sector within the State. More motor vehicles are registered in California than in any other state, and commute times in California rank among some of the longest in the country.

Electricity to the proposed project would be provided by LADWP. LADWP’s power system supplies more than 26 million megawatt-hours (MWh) of electricity a year for the City of Los Angeles’ 1.5 million residential and business customers as well as over 5,000 customers in Owens Valley. Typical residential energy use per customer is approximately 500 kilowatt-hours per month. Business and industry consume approximately 70 percent of the electricity in Los Angeles. LADWP has a generation capacity of 7,880 MW from a mix of energy sources. Approximately 29 percent of electricity is generated from renewable energy, 34 percent from natural gas, 9 percent from nuclear, 3 percent from hydroelectric, 19 percent from coal, and 6 percent from purchased power.

Natural gas is provided and distributed to residents and businesses in the City by the Southern California Gas Company (SoCalGas). According to the 2023 Supplemental California Gas Report, SoCalGas provided 2,458,000,000 thousand British Thermal Unit (kBTU) per day in 2022. The 2022 California Gas Report states that SoCalGas projects total gas demand to decline at an annual rate of 1.5 percent from 2022 to 2035. The forecasted, accelerated decline in throughput demand is being driven by modest economic growth and the forecasted energy efficiency and fuel substitution. Other factors that contribute to the downward trend are tighter standards created by revised Title 24 Codes and Standards, and renewable energy goals that impact gas-fired electricity.

According to the CEC, approximately 11,495 million gallons of gasoline and 1,846 million gallons of diesel, including off-road diesel were sold and consumed in 2022. Approximately 97 percent of all gasoline consumed in California is utilized by light-duty cars, pickup trucks, and sport utility vehicles. Nearly all heavy-duty trucks, delivery vehicles, buses, trains, ships, boats and barges, farm, construction, and heavy-duty military vehicles have diesel engines.

3.3 METHODOLOGY AND SIGNIFICANCE THRESHOLDS

3.3.1 Methodology

Appendix F of the CEQA Guidelines states that the goal of conserving energy implies the wise and efficient use of energy, to be achieved by decreasing overall per capita energy consumption; decreasing reliance on natural gas and oil; and increasing reliance on renewable energy resources. To assure energy implications are considered in project decisions, CEQA requires that environmental impact reports include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.

Construction

The GHG emissions analysis, included in the appendix for the environmental documentation, includes a quantification of construction-related carbon dioxide (CO_2) emissions using the California Emissions Estimator Model (CalEEMod, Version 2022.1.1.21). These emissions were used to estimate construction energy from CO_2 emission factors derived for the CARB GHG emissions inventory. The 2018 Climate Registry indicates that for gasoline fuel, approximately 8.78 kilograms of CO_2 are generated per gallon combusted, and for diesel fuel, approximately 10.21 kilograms of CO_2 are generated per gallon combusted. The fuel consumption was estimated from the equipment and vehicles that would be employed in construction activities. Diesel engines are installed in heavy-duty off-road construction equipment and on-road haul trucks. Gasoline engines are typically found in passenger vehicles that would be used for construction worker daily commutes.

Operations

Annual consumption of electricity and natural gas was calculated using the LADWP demand factors provided in CalEEMod. Electricity usage and natural gas consumption is calculated based on default energy demand factors contained within CalEEMod for the proposed project land use. Electricity from water usage is also based on CalEEMod demand factors for water usage and wastewater production. Transportation fuel use was estimated based on a detailed vehicle miles traveled (VMT) analysis was completed for the proposed project. The daily operational VMT is anticipated to be 2,133 miles for 172 employees at the WQL, 159 miles for the DPR demo facility, and 120 miles for the park. Accounting for existing LADWP employee commuting trips that will be redirected to the new WQL, the net change in WQL daily VMT would be 1,051 miles, for a total daily VMT of 1,330 miles.

3.3.2 Significance Thresholds

In accordance with the State CEQA Guidelines Appendix G, the proposed project would have a significant impact related to energy if it would:

- Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation; and/or
- Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

3.4 ENVIRONMENTAL IMPACTS

3.4.1 Would the proposed project result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation? (Less-Than-Significant Impact)

Impact Analysis

Construction. Construction would require electricity for lighting, construction trailers, and operation of electrically powered hands tools. Electricity to the site would be provided by LADWP and it is likely that most electrically powered equipment would connect to the grid. Consumption of electricity for construction would be minimal and would cease after completion of the proposed project. Electricity use would be minimized to the extent feasible through incorporation of sustainability features and best management practices. Therefore, construction of the proposed project would result in a less than significant impact related to wasteful, inefficient, or unnecessary consumption of electricity.

Construction activities typically do not require the consumption of natural gas to power equipment or heavy machinery. Natural gas that would be consumed during construction would be negligible and would not result in a significant drain on natural gas resources. Therefore, construction of the proposed project would result in a less than significant impact related to wasteful, inefficient, or unnecessary consumption of natural gas.

Petroleum would be consumed during construction activities by heavy-duty equipment, which is usually diesel powered. Construction would also result in an increased consumption of gasoline and diesel fuels associated with haul trucks, deliveries, and worker commute trips. The proposed project would require a one-time expenditure of approximately 355,380 gallons of diesel fuel and 110,616 gallons of gasoline over the seven-year construction period. The annual average petroleum fuels consumption would be approximately 50,769 gallons of diesel fuel and 15,802 gallons of gasoline per year during construction of the proposed project. The proposed project would use best practices to eliminate the potential for the wasteful consumption of petroleum. Exported materials (e.g., demolition debris and soil hauling) would be disposed of at the closest facility that accepts such materials, and the proposed project would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to five minutes. Therefore, because petroleum use would be minimized to the extent feasible and represents a relatively small amount of fuel consumption, construction of the proposed project would result in a less than significant impact related to wasteful, inefficient, or unnecessary consumption of petroleum.

Operations. Operation of the proposed project would require electricity for indoor and outdoor lighting, appliances, and powering other equipment typically associated with functions at the WQL and DPR Demonstration Facility. Excluding the electricity required for the micro-filtration and reverse osmosis processes during water treatment at the DPR Demonstration Facility, the proposed project is estimated to consume 2,220 MWh of electricity per year. The WQL would also be designed to meet Mayor Garcetti's Resilience by Design Directive by obtaining LEED gold certification, with the objective to achieve LEED Platinum certification and Envision Sustainable Infrastructure certification. The facility would also include a green roof, which would be covered with vegetation to reduce heat and capture stormwater.

The conceptual design for the WQL incorporates best management practices and high-performance strategies in several of the major Sustainable City pLAn target areas. The facility would have a photovoltaic array on the roof tops of the building. It would also include an internal landscaped courtyard and green roof to conserve water through stormwater capture and treatment. Recycled water from LAGWRP would provide irrigation water for the proposed project landscaping, which would be drought-tolerant in the types and use of plant material. The building would achieve energy efficiency by implementing strategies including building orientation, high-performance building envelope, and effective daylighting complemented by high performance lighting and high efficiency HVAC systems. The proposed project would include electric vehicle charging stations in compliance with LADBS requirements. It would incorporate recycled material in all aspects of the building construction to promote a sustainable supply chain. All lighting and lighting controls for the facility would comply with the latest version of the Building Energy Efficiency Standard (Title 24) and the California Green Building Standard Code.

The City of Los Angeles has a goal to reuse all of its wastewater by 2035 in order to reduce its use of energy-consumptive imported water supplies. To help meet this goal, LADWP is exploring various advanced treatment technologies that would ultimately support the reuse of wastewater, thereby offsetting similar volumes of imported water. The DPR Demonstration Facility component of the proposed project would be an advanced water purification facility for treated drinking water augmentation. A demonstration facility would provide the opportunity to verify the technologies and processes required to produce purified recycled water suitable for the DPR Demonstration Facility. The facility would also include an educational element to inform the public about the DPR Demonstration Facility and other aspects of water use in the City. The DPR Demonstration Facility would help determine opportunities to reduce regional energy use associated with water use in future years. Therefore, based on the energy savings associated with the proposed WQL compared to existing operations and the substantial energy savings from decreasing imported water that would be realized from the technologies tested at the DPR Demonstration Facility, operation of the proposed project would result in a less than significant impact related to wasteful, inefficient, or unnecessary consumption of electricity.

The proposed project would not include a significant source of natural gas consumption. Natural gas would be used to heat water in faucets associated with the WQL, which would consume approximately 2,512 million BTU (MMBTU) of natural gas annually. This level of consumption has no potential to interfere with natural gas supplies. Therefore, operation of the proposed project would not result in a significant impact related to wasteful, inefficient, or unnecessary consumption of natural gas.

Petroleum consumption during operations would be related to vehicle trips for employees and visitors. The assessment of transportation fuels is based on the detailed VMT analysis completed for the proposed project. The City of has developed screening criteria to identify when a detailed analysis is required for projects. The City's guidelines state that public services (e.g., police, fire stations, public utilities, public parks) do not generally generate substantial VMT. Instead, these land uses are often built-in response to development from other land uses (e.g., office and residential). The proposed project includes a public park and a drinking water treatment facility, which are public services that are presumed to have a less than significant VMT impact.

In order to evaluate the VMT per employee for the WQL, the net change per employee was calculated. The proposed project would replace the Pasadena and Rinaldi facilities. For this evaluation, the net VMT was calculated by subtracting the total VMT per employee for the Pasadena and Rinaldi facilities from the VMT for the proposed project. The VMT per employee for employees that are expected to transfer to the WQL from LADWP facilities in downtown Los Angeles were not subtracted because it is anticipated that those positions would be backfilled at the current locations in the future, unlike the positions in Pasadena and Rinaldi. The Pasadena facility is in Traffic Analysis Zone (TAZ) 22121400 of the SCAG RTP Model. The VMT per employee for the TAZ is 16.3 miles per employee. The Rinaldi facility is included in the City of Los Angeles VMT Calculator, which shows a VMT per employee of 14.1 miles per employee. The VMT/Employee for the proposed project site is 12.4 miles/employee based on the VMT Calculator.

The total VMT for existing and proposed WQL facilities were calculated by multiplying the VMT per employee for the existing and proposed facilities. The decrease of 62 employees at the Pasadena location will result in a VMT reduction of 1,011 miles, and the decrease at the Rinaldi facility will result in a reduction of 71 miles. The new Headworks WQL daily VMT is anticipated to be 2,133 miles for 172 employees. The net change in VMT is 1,051 miles, which results in a net VMT of 6.11 miles per employee. The proposed project is located in the Central Area Planning Commission (APC), which has a VMT Impact Criteria (15 percent below APC Average) of 7.6 miles per employee. The VMT per employee would be less than the average for the Central APC. An additional 159 daily VMT would be attributed to the DPR Demonstration Facility, and an additional 120 daily VMT would be attributed to the park, for a total of 1,330 daily operational VMT for the entire site. Operational mobile source vehicle trips would consume approximately 17,930 gallons of motor gasoline and 812 gallons of diesel fuel annually. This level of petroleum-based transportation fuel consumption would not place an undue burden on existing commercially available resources, and would not interfere with LADWP and regional initiatives to reduce reliance on fossil fuels in transportation applications.

There are no unusual characteristics or processes that would require intensive petroleum consumption, or the use of equipment that would not conform to current emissions standards and related fuel efficiencies. Implementation of the proposed project would not require the development of additional petroleum fuels infrastructure or supply. Therefore, operation of the proposed project would not result in a significant impact related to wasteful, inefficient, or unnecessary consumption of petroleum.

Mitigation Measures

No mitigation measures are required.

3.4.2 Would the proposed project conflict with or obstruct a State or local plan for renewable energy or energy efficiency? (Less-Than-Significant Impact)

Impact Analysis

The proposed project would not obstruct a State or local plan for renewable energy or energy efficiency. The WQL would also be designed to meet Mayor Garcetti's Resilience by Design Directive by obtaining LEED gold certification, with the objective to achieve LEED Platinum certification and Envision Sustainable Infrastructure certification. The facility would also include a green roof, which would be covered with vegetation to reduce heat and capture stormwater. The conceptual design for the WQL incorporates best management practices and high-performance strategies in several of the major Sustainable City pLAn target areas. The facility would have a photovoltaic array on the roof tops of the building. It would also include an internal landscaped courtyard and green roof to conserve water through stormwater capture and treatment. Recycled water from LAGWRP would provide irrigation water for landscaping, which would be drought-tolerant in the types and use of plant material.

The building would achieve energy efficiency by implementing strategies including building orientation, high-performance building envelope, and effective daylighting complemented by high performance lighting and high efficiency HVAC systems. The proposed project would include EV charging stations in compliance with LADBS EVCS requirements. It would incorporate recycled material in all aspects of the building construction to promote a sustainable supply chain. All lighting and lighting controls for the facility would comply with the latest version of the Building Energy Efficiency Standard (Title 24) and the California Green Building Standard Code. The Headworks Park component would incorporate landscaping reflective of native plant communities and also use recycled water for irrigation.

The City of Los Angeles has a goal to reuse all of its wastewater by 2035 in order to reduce its use of energy-consumptive imported water supplies. This reuse may include the continued use of recycled wastewater for non-drinking water purposes, such as irrigation, and/or the purification of recycled wastewater through advanced treatment processes for non-direct potable reuse, such as groundwater recharge. To help meet this goal, LADWP is exploring various advanced treatment technologies that would ultimately support DPR. The DPR Demonstration Facility component would be an advanced water purification facility. A demonstration facility would provide the opportunity to verify the technologies and processes required to produce purified recycled water suitable for the DPR, which would potentially result in increased energy efficiency in future years related to various advanced treatment technologies that would ultimately support the reuse of wastewater, thereby offsetting similar volumes of imported water, which consumes the majority of the energy used by the water sector in the state.

Mitigation Measures

No mitigation measures are required.

4.0 REFERENCES

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APPENDIX

CalEEMod Files

- Headworks Construction Energy Calculation Sheet
- Headworks Park Construction Detailed Report
- Headworks Water Quality Lab Construction Detailed Report
- Headworks DPR Demonstration Facility Detailed Report
- Headworks Project Operations Detailed Report

Headworks Construction Energy Consumption Calculations

Diesel Equipment			gal/bhp-hr
HP>100	BSFC (lb/hp-hr)	0.367	0.051625427
HP<100	BSFC (lb/hp-hr)	0.408	0.057392846
	Unit conversion (lb/gallon)	7.1089	

USEPA 2023 Fuel Carbon Intensity Factors	
kgCO2/gal-D	10.21
kgCO2/gal-G	8.78

Park

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	11/14/2024	1/1/2025	5	35	site clearing
Grading	Grading	1/2/2025	4/2/2025	5	65	excavation and grading
Building Construction	Building Construction	4/3/2025	1/7/2026	5	200	installation of park canopies and structures
Paving	Paving	1/8/2026	2/16/2028	5	550	paving of parking lot and access roads/paths
Architectural Coating	Architectural Coating	1/8/2026	2/16/2028	5	550	landscaping & finishing on structures

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	Days	Gallons
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2	8	84	0.37	35	999
Site Preparation	Air Compressors	Diesel	Average	1	4	37	0.48	35	143
Site Preparation	Skid Steer Loaders	Diesel	Average	1	6	71	0.37	35	317
Site Preparation	Aerial Lifts	Diesel	Average	5	6	46	0.31	35	859
Site Preparation	Rubber Tired Loaders	Diesel	Average	2	6	150	0.36	35	1,171
Site Preparation	Welders	Diesel	Average	3	4	46	0.45	35	499
Site Preparation	Cranes	Diesel	Average	1	4	367	0.29	35	769
Grading	Graders	Diesel	Average	2	8	148	0.41	65	3,258
Grading	Excavators	Diesel	Average	1	6	36	0.38	65	306
Grading	Tractors/Loaders/Backhoes	Diesel	Average	6	7	84	0.37	65	4,870
Grading	Air Compressors	Diesel	Average	2	6	37	0.48	65	795
Grading	Rollers	Diesel	Average	1	6	36	0.38	65	306
Grading	Rubber Tired Loaders	Diesel	Average	5	7	150	0.36	65	6,342
Grading	Welders	Diesel	Average	3	7	46	0.45	65	1,622
Grading	Aerial Lifts	Diesel	Average	9	6	46	0.31	65	2,873
Grading	Generator Sets	Diesel	Average	2	6	14	0.74	65	464
Grading	Cranes	Diesel	Average	1	4	367	0.29	65	1,429
Grading	Forklifts	Diesel	Average	4	7	82	0.2	65	1,713
Grading	Pressure Washers	Diesel	Average	3	6	14	0.3	65	282
Grading	Trenchers	Diesel	Average	1	4	40	0.5	65	298
Grading	Surfacing Equipment	Diesel	Average	1	4	399	0.3	65	1,607

Headworks Construction Energy Consumption Calculations

Building Construction	Forklifts	Diesel	Average	2	8	82	0.2	200	3,012
Building Construction	Generator Sets	Diesel	Average	1	8	14	0.74	200	951
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3	7	84	0.37	200	7,492
Building Construction	Rollers	Diesel	Average	2	7	36	0.38	200	2,198
Building Construction	Rubber Tired Loaders	Diesel	Average	4	7	150	0.36	200	15,612
Building Construction	Skid Steer Loaders	Diesel	Average	2	7	71	0.37	200	4,222
Building Construction	Graders	Diesel	Average	2	6	148	0.41	200	7,518
Building Construction	Surfacing Equipment	Diesel	Average	1	4	399	0.3	200	4,944
Building Construction	Off-Highway Tractors	Diesel	Average	1	6	38	0.44	200	1,152
Paving	Pavers	Diesel	Average	1	7	81	0.42	550	7,517
Paving	Rollers	Diesel	Average	1	7	36	0.38	550	3,023
Paving	Graders	Diesel	Average	1	6	148	0.41	550	10,338
Paving	Welders	Diesel	Average	1	6	46	0.45	550	3,921
Architectural Coating	Skid Steer Loaders	Diesel	Average	2	7	71	0.37	550	11,609
Architectural Coating	Forklifts	Diesel	Average	2	7	82	0.2	550	7,248
Architectural Coating	Aerial Lifts	Diesel	Average	1	7	46	0.31	550	3,151
Architectural Coating	Rubber Tired Loaders	Diesel	Average	1	7	150	0.36	550	10,733
Architectural Coating	Trenchers	Diesel	Average	1	6	40	0.5	550	3,788

5.3. Construction Vehicles

Equip Diesel (gal) 139,348

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix	Fuel	MTCO2-year1	MTCO2-year2	MTCO2-year3	Gallons
Site Preparation									
Site Preparation	Worker	64	18.5	LDA,LDT1,LDT2	G	13.5	0.28		1,569
Site Preparation	Vendor	6	10.2	HHDT,MHDT	D	3.01	0.06		301
Site Preparation	Hauling	4	20	HHDT	D	4.39	0.09		439
Site Preparation	Onsite truck	4	4	HHDT,MHDT	D	0.83	0.02		83
Grading									
Grading	Worker	110	18.5	LDA,LDT1,LDT2	G	43.1			4,909
Grading	Vendor	10	10.2	HHDT,MHDT	D	9.36			917
Grading	Hauling	4	20	HHDT	D	8.17			800
Grading	Onsite truck	9	4	HHDT,MHDT	D	3.47			340
Building Construction									
Building Construction	Worker	160	18.5	LDA,LDT1,LDT2	G	188	4.73		21,951
Building Construction	Vendor	20	10.2	HHDT,MHDT	D	56.1	1.41		5,633
Building Construction	Hauling	2	20	HHDT	D	12.3	0.31		1,235
Building Construction	Onsite truck	11	4	HHDT,MHDT	D	12.7	0.32		1,275
Paving									
Paving	Worker	80	18.5	LDA,LDT1,LDT2	G	121	121	15.3	29,305
Paving	Vendor	4	10.2	HHDT,MHDT	D	14.5	14.5	1.82	3,019
Paving	Hauling	0	20	HHDT	D	0	0	0	0
Paving	Onsite truck	9	4	HHDT,MHDT	D	13.4	13.4	1.69	2,790
Architectural Coating									
Architectural Coating	Worker	20	18.5	LDA,LDT1,LDT2	G	30.2	30.2	3.82	7,314
Architectural Coating	Vendor	0	10.2	HHDT,MHDT	D	0	0	0	0
Architectural Coating	Hauling	2	20	HHDT	D	15.8	15.8	1.99	3,290
Architectural Coating	Onsite truck	7	4	HHDT,MHDT	D	10.4	10.4	1.31	2,166

Worker (gas-gal) 65,049

Other (diesel-gal) 22,287

Headworks Construction Energy Consumption Calculations

WQL

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase
Site Preparation	Site Preparation	6/14/2027	11/5/2027	5	105
Grading	Grading	11/8/2027	2/18/2028	5	75
Building Construction	Building Construction	2/21/2028	8/10/2029	5	385
Paving	Paving	8/13/2029	12/28/2029	5	100
Architectural Coating	Architectural Coating	8/13/2029	12/28/2029	5	100

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	Days	Gallons
Site Preparation	Rubber Tired Dozers	Diesel	Average	2	6	367	0.4	105	9,549
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	3	8	84	0.37	105	4,495
Site Preparation	Excavators	Diesel	Average	2	8	36	0.38	105	1,319
Site Preparation	Rubber Tired Loaders	Diesel	Average	1	8	150	0.36	105	2,342
Site Preparation	Scrapers	Diesel	Average	3	6	423	0.48	105	19,811
Site Preparation	Off-Highway Tractors	Diesel	Average	2	6	38	0.44	105	1,209
Grading	Excavators	Diesel	Average	1	8	36	0.38	75	471
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2	8	84	0.37	75	2,141
Grading	Air Compressors	Diesel	Average	1	7	37	0.48	75	535
Grading	Skid Steer Loaders	Diesel	Average	1	7	71	0.37	75	792
Grading	Surfacing Equipment	Diesel	Average	1	6	399	0.3	75	2,781
Grading	Rubber Tired Loaders	Diesel	Average	1	8	150	0.36	75	1,673
Grading	Pressure Washers	Diesel	Average	2	6	14	0.3	75	217
Grading	Cranes	Diesel	Average	2	6	367	0.29	75	4,945
Grading	Welders	Diesel	Average	4	6	46	0.45	75	2,138
Building Construction	Forklifts	Electric	Average	2	8	82	0.2	385	5,798
Building Construction	Generator Sets	Diesel	Average	2	8	14	0.74	385	3,663
Building Construction	Welders	Diesel	Average	1	8	46	0.45	385	3,659
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3	7	84	0.37	385	14,422
Building Construction	Aerial Lifts	Diesel	Average	8	8	46	0.31	385	20,166
Paving	Pavers	Diesel	Average	1	8	81	0.42	100	1,562
Paving	Rollers	Diesel	Average	2	8	36	0.38	100	1,256
Architectural Coating	Forklifts	Electric	Average	1	8	82	0.2	100	753
Architectural Coating	Graders	Diesel	Average	1	8	148	0.41	100	2,506
Architectural Coating	Scrapers	Diesel	Average	2	6	423	0.48	100	12,578
Architectural Coating	Tractors/Loaders/Backhoes	Diesel	Average	2	8	84	0.37	100	2,854
Architectural Coating	Generator Sets	Diesel	Average	2	8	14	0.74	100	951
Architectural Coating	Trenchers	Diesel	Average	1	6	40	0.5	100	689
									125,275

Headworks Construction Energy Consumption Calculations

5.3. Construction Vehicles
5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix	Fuel	MTCO2-year1	MTCO2-year2	MTCO2-year3	Gallons
Site Preparation									
Site Preparation	Worker	30	18.5	LDA,LDT1,LDT2	G	18.3			2,084
Site Preparation	Vendor	16	10.2	HHDT,MHDT	D	23.3			2,282
Site Preparation	Hauling	4	20	HHDT	D	12.7			1,244
Site Preparation	Onsite truck	4	4	HHDT,MHDT	D	2.4			235
Grading									
Grading	Worker	40	18.5	LDA,LDT1,LDT2	G	8.95	7.97		1,927
Grading	Vendor	16	10.2	HHDT,MHDT	D	8.56	7.59		1,582
Grading	Hauling	4	20	HHDT	D	4.67	4.14		863
Grading	Onsite truck	6	4	HHDT,MHDT	D	1.33	1.18		246
Building Construction									
Building Construction	Worker	60	18.5	LDA,LDT1,LDT2	G	76.9	53.3		14,829
Building Construction	Vendor	4	10.2	HHDT,MHDT	D	12.2	8.37		2,015
Building Construction	Hauling	0	20	HHDT	D	0	0		0
Building Construction	Onsite truck	7	4	HHDT,MHDT	D	8.81	6.05		1,455
Paving									
Paving	Worker	80	18.5	LDA,LDT1,LDT2	G	44.8			5,103
Paving	Vendor	0	10.2	HHDT,MHDT	D	0			0
Paving	Hauling	8	20	HHDT	D	23.1			2,262
Paving	Onsite truck	9	4	HHDT,MHDT	D	4.91			481
Architectural Coating									
Architectural Coating	Worker	80	18.5	LDA,LDT1,LDT2	G	44.8			5,103
Architectural Coating	Vendor	0	10.2	HHDT,MHDT	D	0			0
Architectural Coating	Hauling	0	20	HHDT	D	0			0
Architectural Coating	Onsite truck	3	4	HHDT,MHDT	D	1.64			161

Worker (gas-gal)	29,046
Other (diesel-gal)	12,826

Headworks Construction Energy Consumption Calculations

DPR

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase
Site Preparation	Site Preparation	5/1/2030	7/2/2030	5	45
Grading	Grading	7/3/2030	9/3/2030	5	45
Building Construction	Building Construction	9/4/2030	11/26/2030	5	60
Paving	Paving	2/3/2031	3/28/2031	5	40
Architectural Coating	Architectural Coating	12/2/2030	10/31/2031	5	240

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	Days	Gallons
Site Preparation	Graders	Diesel	Average	1	8	148	0.41	45	1,128
Site Preparation	Scrapers	Diesel	Average	1	8	423	0.48	45	3,774
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2	7	84	0.37	45	1,124
Grading	Graders	Diesel	Average	1	8	148	0.41	45	1,128
Grading	Rubber Tired Dozers	Diesel	Average	1	8	367	0.4	45	2,728
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3	7	84	0.37	45	1,686
Grading	Excavators	Diesel	Average	2	8	36	0.38	45	565
Grading	Scrapers	Diesel	Average	2	6	423	0.48	45	5,660
Grading	Rubber Tired Loaders	Diesel	Average	1	8	150	0.36	45	1,004
Grading	Off-Highway Tractors	Diesel	Average	1	7	38	0.44	45	302
Building Construction	Forklifts	Electric	Average	3	7	82	0.2	60	1,186
Building Construction	Generator Sets	Diesel	Average	2	8	14	0.74	60	571
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2	6	84	0.37	60	1,284
Building Construction	Welders	Diesel	Average	1	8	46	0.45	60	570
Building Construction	Aerial Lifts	Diesel	Average	6	7	46	0.31	60	2,062
Building Construction	Rubber Tired Loaders	Diesel	Average	1	7	150	0.36	60	1,171
Building Construction	Air Compressors	Diesel	Average	1	7	37	0.48	60	428
Building Construction	Skid Steer Loaders	Diesel	Average	1	7	71	0.37	60	633
Building Construction	Surfacing Equipment	Diesel	Average	1	6	399	0.3	60	2,225
Building Construction	Excavators	Diesel	Average	1	7	36	0.38	60	330
Paving	Pavers	Diesel	Average	1	8	81	0.42	40	625
Paving	Rollers	Diesel	Average	2	8	36	0.38	40	502
Paving	Surfacing Equipment	Diesel	Average	1	7	399	0.3	40	1,730
Paving	Trenchers	Diesel	Average	1	7	40	0.5	40	321
Paving	Graders	Diesel	Average	1	8	148	0.41	40	1,002
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1	7	84	0.37	40	499
Architectural Coating	Forklifts	Electric	Average	4	8	82	0.2	240	7,229
Architectural Coating	Generator Sets	Diesel	Average	3	8	14	0.74	240	3,425
Architectural Coating	Welders	Diesel	Average	1	7	46	0.45	240	1,996
Architectural Coating	Aerial Lifts	Diesel	Average	3	7	46	0.31	240	4,125

Headworks Construction Energy Consumption Calculations

5.3. Construction Vehicles 51,014

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix	Fuel	MTCO2-year1	MTCO2-year2	MTCO2-year3	Gallons
Site Preparation									
Site Preparation	Worker	30	18.5	LDA,LDT1,LDT2	G	7.44			847
Site Preparation	Vendor	8	10.2	HHDT,MHDT	D	4.61			452
Site Preparation	Hauling	2	20	HHDT	D	2.53			248
Site Preparation	Onsite truck	4	4	HHDT,MHDT	D	0.95			93
Grading									
Grading	Worker	30	18.5	LDA,LDT1,LDT2	G	7.44			847
Grading	Vendor	4	10.2	HHDT,MHDT	D	2.3			225
Grading	Hauling	8	20	HHDT	D	10.1			989
Grading	Onsite truck	5	4	HHDT,MHDT	D	1.19			117
Building Construction									
Building Construction	Worker	80	18.5	LDA,LDT1,LDT2	G	26.4			3,007
Building Construction	Vendor	6	10.2	HHDT,MHDT	D	4.61			452
Building Construction	Hauling	4	20	HHDT	D	6.76			662
Building Construction	Onsite truck	9	4	HHDT,MHDT	D	2.86			280
Paving									
Paving	Worker	120	18.5	LDA,LDT1,LDT2	G	26			2,961
Paving	Vendor	6	10.2	HHDT,MHDT	D	2.97			291
Paving	Hauling	0	20	HHDT	D	0			0
Paving	Onsite truck	11	4	HHDT,MHDT	D	2.26			221
Architectural Coating									
Architectural Coating	Worker	60	18.5	LDA,LDT1,LDT2	G	7.08	70.7		8,859
Architectural Coating	Vendor	0	10.2	HHDT,MHDT	D	0	0		0
Architectural Coating	Hauling	0	20	HHDT	D	0	0		0
Architectural Coating	Onsite truck	5	4	HHDT,MHDT	D	0.57	5.57		601

Worker (gas-gal)	16,522	
Other (diesel-gal)	4,631	
Total Equip Gallons D	315,636	
Total Vehicle Gallons D	39,743	**Annual Average**
Total Gallons D	**355,380**	50,769
Total Gallons G	**110,616**	15,802

LADWP Headworks Project - Park Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LADWP Headworks Project - Park Construction
Construction Start Date	11/14/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	20.2
Location	34.153231832974924, -118.31594338641173
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3974
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
Parking Lot	3.00	Acre	3.00	0.00	13,000	13,000	—	Parking lot and paved access roads.

City Park	17.5	Acre	17.5	0.00	387,830	387,830	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-4*	Use Local and Sustainable Building Materials

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	39.4	60.8	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	11,049	11,049	0.46	0.25	10.5	11,136
Mit.	4.79	39.4	60.8	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	11,049	11,049	0.46	0.25	10.5	11,136
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	39.5	59.7	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	10,970	10,970	0.46	0.25	0.27	11,050
Mit.	4.79	39.5	59.7	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	10,970	10,970	0.46	0.25	0.27	11,050
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	2.52	18.8	32.6	0.05	0.78	7.60	8.38	0.72	0.97	1.69	—	6,339	6,339	0.27	0.17	3.00	6,400
Mit.	2.52	18.8	32.6	0.05	0.78	7.60	8.38	0.72	0.97	1.69	—	6,339	6,339	0.27	0.17	3.00	6,400
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.46	3.44	5.96	0.01	0.14	1.39	1.53	0.13	0.18	0.31	—	1,049	1,049	0.04	0.03	0.50	1,060
Mit.	0.46	3.44	5.96	0.01	0.14	1.39	1.53	0.13	0.18	0.31	—	1,049	1,049	0.04	0.03	0.50	1,060
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.79	39.4	60.8	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	11,049	11,049	0.46	0.25	10.5	11,136

2026	1.59	11.5	22.3	0.03	0.45	10.6	11.1	0.41	1.26	1.66	—	4,222	4,222	0.18	0.14	5.76	4,273
2027	1.52	10.8	21.8	0.03	0.40	10.6	11.0	0.36	1.26	1.62	—	4,187	4,187	0.18	0.13	5.24	4,237
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.67	14.2	21.8	0.03	0.47	4.38	4.86	0.44	0.57	1.01	—	4,351	4,351	0.19	0.14	0.13	4,396
2025	4.79	39.5	59.7	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	10,970	10,970	0.46	0.25	0.27	11,050
2026	2.87	20.1	39.9	0.05	0.83	11.7	12.5	0.76	1.49	2.25	—	8,098	8,098	0.34	0.25	0.25	8,181
2027	1.51	11.0	20.9	0.03	0.40	10.6	11.0	0.36	1.26	1.62	—	4,119	4,119	0.14	0.13	0.14	4,162
2028	1.45	10.4	20.6	0.03	0.35	10.6	11.0	0.32	1.26	1.58	—	4,087	4,087	0.13	0.13	0.12	4,130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.16	1.34	2.07	< 0.005	0.04	0.39	0.44	0.04	0.05	0.09	—	410	410	0.02	0.01	0.20	414
2025	2.52	18.8	32.6	0.05	0.78	7.60	8.38	0.72	0.97	1.69	—	6,339	6,339	0.27	0.17	3.00	6,400
2026	1.15	8.40	15.7	0.02	0.32	7.23	7.56	0.30	0.86	1.16	—	3,033	3,033	0.13	0.10	1.80	3,068
2027	1.08	7.82	15.1	0.02	0.28	7.22	7.50	0.26	0.86	1.12	—	2,955	2,955	0.10	0.10	1.61	2,988
2028	0.13	0.96	1.92	< 0.005	0.03	0.93	0.96	0.03	0.11	0.14	—	378	378	0.01	0.01	0.19	382
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.03	0.24	0.38	< 0.005	0.01	0.07	0.08	0.01	0.01	0.02	—	67.9	67.9	< 0.005	< 0.005	0.03	68.6
2025	0.46	3.44	5.96	0.01	0.14	1.39	1.53	0.13	0.18	0.31	—	1,049	1,049	0.04	0.03	0.50	1,060
2026	0.21	1.53	2.87	< 0.005	0.06	1.32	1.38	0.05	0.16	0.21	—	502	502	0.02	0.02	0.30	508
2027	0.20	1.43	2.76	< 0.005	0.05	1.32	1.37	0.05	0.16	0.20	—	489	489	0.02	0.02	0.27	495
2028	0.02	0.17	0.35	< 0.005	0.01	0.17	0.18	0.01	0.02	0.03	—	62.5	62.5	< 0.005	< 0.005	0.03	63.2

2.3. Construction Emissions by Year, Mitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.79	39.4	60.8	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	11,049	11,049	0.46	0.25	10.5	11,136
2026	1.59	11.5	22.3	0.03	0.45	10.6	11.1	0.41	1.26	1.66	—	4,222	4,222	0.18	0.14	5.76	4,273
2027	1.52	10.8	21.8	0.03	0.40	10.6	11.0	0.36	1.26	1.62	—	4,187	4,187	0.18	0.13	5.24	4,237
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.67	14.2	21.8	0.03	0.47	4.38	4.86	0.44	0.57	1.01	—	4,351	4,351	0.19	0.14	0.13	4,396
2025	4.79	39.5	59.7	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	10,970	10,970	0.46	0.25	0.27	11,050
2026	2.87	20.1	39.9	0.05	0.83	11.7	12.5	0.76	1.49	2.25	—	8,098	8,098	0.34	0.25	0.25	8,181
2027	1.51	11.0	20.9	0.03	0.40	10.6	11.0	0.36	1.26	1.62	—	4,119	4,119	0.14	0.13	0.14	4,162
2028	1.45	10.4	20.6	0.03	0.35	10.6	11.0	0.32	1.26	1.58	—	4,087	4,087	0.13	0.13	0.12	4,130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.16	1.34	2.07	< 0.005	0.04	0.39	0.44	0.04	0.05	0.09	—	410	410	0.02	0.01	0.20	414
2025	2.52	18.8	32.6	0.05	0.78	7.60	8.38	0.72	0.97	1.69	—	6,339	6,339	0.27	0.17	3.00	6,400
2026	1.15	8.40	15.7	0.02	0.32	7.23	7.56	0.30	0.86	1.16	—	3,033	3,033	0.13	0.10	1.80	3,068
2027	1.08	7.82	15.1	0.02	0.28	7.22	7.50	0.26	0.86	1.12	—	2,955	2,955	0.10	0.10	1.61	2,988
2028	0.13	0.96	1.92	< 0.005	0.03	0.93	0.96	0.03	0.11	0.14	—	378	378	0.01	0.01	0.19	382
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.03	0.24	0.38	< 0.005	0.01	0.07	0.08	0.01	0.01	0.02	—	67.9	67.9	< 0.005	< 0.005	0.03	68.6
2025	0.46	3.44	5.96	0.01	0.14	1.39	1.53	0.13	0.18	0.31	—	1,049	1,049	0.04	0.03	0.50	1,060
2026	0.21	1.53	2.87	< 0.005	0.06	1.32	1.38	0.05	0.16	0.21	—	502	502	0.02	0.02	0.30	508
2027	0.20	1.43	2.76	< 0.005	0.05	1.32	1.37	0.05	0.16	0.20	—	489	489	0.02	0.02	0.27	495
2028	0.02	0.17	0.35	< 0.005	0.01	0.17	0.18	0.01	0.02	0.03	—	62.5	62.5	< 0.005	< 0.005	0.03	63.2

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.37	13.2	17.4	0.03	0.47	—	0.47	0.43	—	0.43	—	2,965	2,965	0.12	0.02	—	2,975
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.09	0.05	< 0.005	< 0.005	3.42	3.42	< 0.005	0.34	0.34	—	53.3	53.3	< 0.005	0.01	< 0.005	55.6
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.24	1.64	< 0.005	0.04	—	0.04	0.04	—	0.04	—	279	279	0.01	< 0.005	—	279
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.30	0.30	< 0.005	0.03	0.03	—	5.00	5.00	< 0.005	< 0.005	0.01	5.22
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.23	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.1	46.1	< 0.005	< 0.005	—	46.3

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.86
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.36	4.08	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	856	856	0.04	0.03	0.09	867
Vendor	0.01	0.24	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	194	194	0.01	0.03	0.01	202
Hauling	0.01	0.37	0.14	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	282	282	0.02	0.05	0.02	296
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.40	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.6	81.6	< 0.005	< 0.005	0.14	82.8
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	18.2	18.2	< 0.005	< 0.005	0.02	19.0
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.5	26.5	< 0.005	< 0.005	0.03	27.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.01	3.01	< 0.005	< 0.005	< 0.005	3.14
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.39	4.39	< 0.005	< 0.005	< 0.005	4.61

3.2. Site Preparation (2024) - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.37	13.2	17.4	0.03	0.47	—	0.47	0.43	—	0.43	—	2,965	2,965	0.12	0.02	—	2,975
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.09	0.05	< 0.005	< 0.005	3.42	3.42	< 0.005	0.34	0.34	—	53.3	53.3	< 0.005	0.01	< 0.005	55.6
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.24	1.64	< 0.005	0.04	—	0.04	0.04	—	0.04	—	279	279	0.01	< 0.005	—	279
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.30	0.30	< 0.005	0.03	0.03	—	5.00	5.00	< 0.005	< 0.005	0.01	5.22
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.23	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.1	46.1	< 0.005	< 0.005	—	46.3
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.86
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.36	4.08	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	856	856	0.04	0.03	0.09	867
Vendor	0.01	0.24	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	194	194	0.01	0.03	0.01	202
Hauling	0.01	0.37	0.14	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	282	282	0.02	0.05	0.02	296
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.40	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.6	81.6	< 0.005	< 0.005	0.14	82.8
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	18.2	18.2	< 0.005	< 0.005	0.02	19.0
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.5	26.5	< 0.005	< 0.005	0.03	27.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.01	3.01	< 0.005	< 0.005	< 0.005	3.14
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.39	4.39	< 0.005	< 0.005	< 0.005	4.61

3.3. Site Preparation (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	12.3	17.3	0.03	0.40	—	0.40	0.37	—	0.37	—	2,965	2,965	0.12	0.02	—	2,975

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	3.42	3.42	< 0.005	0.34	0.34	—	52.4	52.4	< 0.005	0.01	< 0.005	54.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.80	5.80	< 0.005	< 0.005	—	5.82
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.96	0.96	< 0.005	< 0.005	—	0.96
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.31	3.78	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	839	839	0.04	0.03	0.08	849
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	190	190	0.01	0.03	0.01	199
Hauling	< 0.005	0.35	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	291

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.69
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.39
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09

3.4. Site Preparation (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	12.3	17.3	0.03	0.40	—	0.40	0.37	—	0.37	—	2,965	2,965	0.12	0.02	—	2,975
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	3.42	3.42	< 0.005	0.34	0.34	—	52.4	52.4	< 0.005	0.01	< 0.005	54.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.80	5.80	< 0.005	< 0.005	—	5.82

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.96	0.96	< 0.005	< 0.005	—	0.96
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.31	3.78	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	839	839	0.04	0.03	0.08	849
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	190	190	0.01	0.03	0.01	199
Hauling	< 0.005	0.35	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.69
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.39
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09

3.5. Grading (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	38.1	52.8	0.09	1.52	—	1.52	1.40	—	1.40	—	8,816	8,816	0.36	0.07	—	8,846
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.01	0.18	0.10	< 0.005	< 0.005	7.70	7.70	< 0.005	0.77	0.77	—	118	118	0.01	0.02	0.31	123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	38.1	52.8	0.09	1.52	—	1.52	1.40	—	1.40	—	8,816	8,816	0.36	0.07	—	8,846
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.01	0.19	0.11	< 0.005	< 0.005	7.70	7.70	< 0.005	0.77	0.77	—	118	118	0.01	0.02	0.01	123
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	6.78	9.40	0.02	0.27	—	0.27	0.25	—	0.25	—	1,570	1,570	0.06	0.01	—	1,575

Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.03	0.02	< 0.005	< 0.005	1.30	1.30	< 0.005	0.13	0.13	—	21.0	21.0	< 0.005	< 0.005	0.02	21.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.24	1.71	< 0.005	0.05	—	0.05	0.05	—	0.05	—	260	260	0.01	< 0.005	—	261
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	3.47	3.47	< 0.005	< 0.005	< 0.005	3.63
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.48	7.65	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,521	1,521	0.06	0.05	5.57	1,544
Vendor	0.01	0.36	0.18	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	317	317	0.01	0.04	0.87	332
Hauling	< 0.005	0.34	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.64	291
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.53	6.49	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,442	1,442	0.07	0.05	0.14	1,460
Vendor	0.01	0.38	0.18	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	317	317	0.01	0.04	0.02	331
Hauling	< 0.005	0.35	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.10	1.21	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	261	261	0.01	0.01	0.43	264
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	56.5	56.5	< 0.005	0.01	0.07	59.0
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.4	49.4	< 0.005	0.01	0.05	51.8

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	43.1	43.1	< 0.005	< 0.005	0.07	43.7
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.36	9.36	< 0.005	< 0.005	0.01	9.77
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.17	8.17	< 0.005	< 0.005	0.01	8.57

3.6. Grading (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	38.1	52.8	0.09	1.52	—	1.52	1.40	—	1.40	—	8,816	8,816	0.36	0.07	—	8,846
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.01	0.18	0.10	< 0.005	< 0.005	7.70	7.70	< 0.005	0.77	0.77	—	118	118	0.01	0.02	0.31	123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	38.1	52.8	0.09	1.52	—	1.52	1.40	—	1.40	—	8,816	8,816	0.36	0.07	—	8,846
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.01	0.19	0.11	< 0.005	< 0.005	7.70	7.70	< 0.005	0.77	0.77	—	118	118	0.01	0.02	0.01	123
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.77	6.78	9.40	0.02	0.27	—	0.27	0.25	—	0.25	—	1,570	1,570	0.06	0.01	—	1,575
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.03	0.02	< 0.005	< 0.005	1.30	1.30	< 0.005	0.13	0.13	—	21.0	21.0	< 0.005	< 0.005	0.02	21.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.24	1.71	< 0.005	0.05	—	0.05	0.05	—	0.05	—	260	260	0.01	< 0.005	—	261
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	3.47	3.47	< 0.005	< 0.005	< 0.005	3.63
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.48	7.65	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,521	1,521	0.06	0.05	5.57	1,544
Vendor	0.01	0.36	0.18	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	317	317	0.01	0.04	0.87	332
Hauling	< 0.005	0.34	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.64	291
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.53	6.49	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,442	1,442	0.07	0.05	0.14	1,460
Vendor	0.01	0.38	0.18	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	317	317	0.01	0.04	0.02	331
Hauling	< 0.005	0.35	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.10	1.21	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	261	261	0.01	0.01	0.43	264

Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	56.5	56.5	< 0.005	0.01	0.07	59.0
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.4	49.4	< 0.005	0.01	0.05	51.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	43.1	43.1	< 0.005	< 0.005	0.07	43.7
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.36	9.36	< 0.005	< 0.005	0.01	9.77
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.17	8.17	< 0.005	< 0.005	0.01	8.57

3.7. Building Construction (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.41	20.0	30.6	0.05	0.94	—	0.94	0.87	—	0.87	—	5,140	5,140	0.21	0.04	—	5,158
Onsite truck	0.01	0.22	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	144	144	0.01	0.02	0.37	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.41	20.0	30.6	0.05	0.94	—	0.94	0.87	—	0.87	—	5,140	5,140	0.21	0.04	—	5,158
Onsite truck	0.01	0.23	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	144	144	0.01	0.02	0.01	150
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	10.7	16.3	0.03	0.50	—	0.50	0.46	—	0.46	—	2,746	2,746	0.11	0.02	—	2,756
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	4.75	4.75	< 0.005	0.48	0.48	—	76.9	76.9	< 0.005	0.01	0.09	80.4

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	1.95	2.98	< 0.005	0.09	—	0.09	0.08	—	0.08	—	455	455	0.02	< 0.005	—	456
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.87	0.87	< 0.005	0.09	0.09	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.69	0.69	11.1	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,212	2,212	0.09	0.08	8.10	2,245
Vendor	0.02	0.72	0.35	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	635	635	0.03	0.09	1.74	663
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.32	146
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.68	0.77	9.44	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,097	2,097	0.10	0.08	0.21	2,123
Vendor	0.02	0.75	0.36	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	635	635	0.03	0.09	0.05	662
Hauling	< 0.005	0.18	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.44	5.30	0.00	0.00	1.10	1.10	0.00	0.26	0.26	—	1,137	1,137	0.05	0.04	1.87	1,152
Vendor	0.01	0.40	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	339	339	0.01	0.05	0.40	354
Hauling	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	74.0	74.0	< 0.005	0.01	0.07	77.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.97	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	188	188	0.01	0.01	0.31	191
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.1	56.1	< 0.005	0.01	0.07	58.6
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.01	12.9

3.8. Building Construction (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.41	20.0	30.6	0.05	0.94	—	0.94	0.87	—	0.87	—	5,140	5,140	0.21	0.04	—	5,158
Onsite truck	0.01	0.22	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	144	144	0.01	0.02	0.37	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.41	20.0	30.6	0.05	0.94	—	0.94	0.87	—	0.87	—	5,140	5,140	0.21	0.04	—	5,158
Onsite truck	0.01	0.23	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	144	144	0.01	0.02	0.01	150
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	10.7	16.3	0.03	0.50	—	0.50	0.46	—	0.46	—	2,746	2,746	0.11	0.02	—	2,756
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	4.75	4.75	< 0.005	0.48	0.48	—	76.9	76.9	< 0.005	0.01	0.09	80.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	1.95	2.98	< 0.005	0.09	—	0.09	0.08	—	0.08	—	455	455	0.02	< 0.005	—	456
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.87	0.87	< 0.005	0.09	0.09	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.69	0.69	11.1	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,212	2,212	0.09	0.08	8.10	2,245
Vendor	0.02	0.72	0.35	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	635	635	0.03	0.09	1.74	663

Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.32	146
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.68	0.77	9.44	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,097	2,097	0.10	0.08	0.21	2,123
Vendor	0.02	0.75	0.36	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	635	635	0.03	0.09	0.05	662
Hauling	< 0.005	0.18	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.44	5.30	0.00	0.00	1.10	1.10	0.00	0.26	0.26	—	1,137	1,137	0.05	0.04	1.87	1,152
Vendor	0.01	0.40	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	339	339	0.01	0.05	0.40	354
Hauling	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	74.0	74.0	< 0.005	0.01	0.07	77.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.97	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	188	188	0.01	0.01	0.31	191
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.1	56.1	< 0.005	0.01	0.07	58.6
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.01	12.9

3.9. Building Construction (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	18.2	30.5	0.05	0.82	—	0.82	0.76	—	0.76	—	5,141	5,141	0.21	0.04	—	5,159

Onsite truck	0.01	0.22	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	142	142	0.01	0.02	0.01	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.42	< 0.005	0.01	—	0.01	0.01	—	0.01	—	70.4	70.4	< 0.005	< 0.005	—	70.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.7	11.7	< 0.005	< 0.005	—	11.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.34
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.70	8.82	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,055	2,055	0.09	0.08	0.19	2,080
Vendor	0.02	0.72	0.34	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	624	624	0.03	0.09	0.04	651
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.6	28.6	< 0.005	< 0.005	0.04	29.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.54	8.54	< 0.005	< 0.005	0.01	8.93
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.86	1.86	< 0.005	< 0.005	< 0.005	1.96
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.73	4.73	< 0.005	< 0.005	0.01	4.79
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.32

3.10. Building Construction (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	18.2	30.5	0.05	0.82	—	0.82	0.76	—	0.76	—	5,141	5,141	0.21	0.04	—	5,159
Onsite truck	0.01	0.22	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	142	142	0.01	0.02	0.01	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.42	< 0.005	0.01	—	0.01	0.01	—	0.01	—	70.4	70.4	< 0.005	< 0.005	—	70.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.7	11.7	< 0.005	< 0.005	—	11.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.34
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.59	0.70	8.82	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,055	2,055	0.09	0.08	0.19	2,080
Vendor	0.02	0.72	0.34	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	624	624	0.03	0.09	0.04	651
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.6	28.6	< 0.005	< 0.005	0.04	29.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.54	8.54	< 0.005	< 0.005	0.01	8.93
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.86	1.86	< 0.005	< 0.005	< 0.005	1.96
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.73	4.73	< 0.005	< 0.005	0.01	4.79
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.32

3.11. Paving (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.10	6.62	0.01	0.24	—	0.24	0.22	—	0.22	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	116	116	0.01	0.02	0.30	121

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.10	6.62	0.01	0.24	—	0.24	0.22	—	0.22	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.18	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	116	116	0.01	0.02	0.01	121
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	3.57	4.64	0.01	0.17	—	0.17	0.15	—	0.15	—	688	688	0.03	0.01	—	690
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	3.41	3.41	< 0.005	0.34	0.34	—	81.1	81.1	< 0.005	0.01	0.09	84.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.65	0.85	< 0.005	0.03	—	0.03	0.03	—	0.03	—	114	114	< 0.005	< 0.005	—	114
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.06	—	13.4	13.4	< 0.005	< 0.005	0.01	14.0
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.31	5.17	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,084	1,084	0.04	0.04	3.67	1,100
Vendor	< 0.005	0.14	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.34	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.35	4.41	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,028	1,028	0.05	0.04	0.10	1,040
Vendor	< 0.005	0.14	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.01	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.27	3.23	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	731	731	0.03	0.03	1.11	740
Vendor	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.10	91.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.59	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	0.01	< 0.005	0.18	123
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.02	15.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2026) - Mitigated

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

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

Off-Road Equipment	0.62	5.10	6.62	0.01	0.24	—	0.24	0.22	—	0.22	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	116	116	0.01	0.02	0.30	121
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.10	6.62	0.01	0.24	—	0.24	0.22	—	0.22	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.18	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	116	116	0.01	0.02	0.01	121
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	3.57	4.64	0.01	0.17	—	0.17	0.15	—	0.15	—	688	688	0.03	0.01	—	690
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	3.41	3.41	< 0.005	0.34	0.34	—	81.1	81.1	< 0.005	0.01	0.09	84.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.65	0.85	< 0.005	0.03	—	0.03	0.03	—	0.03	—	114	114	< 0.005	< 0.005	—	114

Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.06	—	13.4	13.4	< 0.005	< 0.005	0.01	14.0
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.31	5.17	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,084	1,084	0.04	0.04	3.67	1,100
Vendor	< 0.005	0.14	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.34	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.35	4.41	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,028	1,028	0.05	0.04	0.10	1,040
Vendor	< 0.005	0.14	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.01	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.27	3.23	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	731	731	0.03	0.03	1.11	740
Vendor	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.10	91.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.59	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	0.01	< 0.005	0.18	123
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.02	15.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	4.82	6.63	0.01	0.22	—	0.22	0.20	—	0.20	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	114	114	0.01	0.02	0.28	119
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	4.82	6.63	0.01	0.22	—	0.22	0.20	—	0.20	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	114	114	0.01	0.02	0.01	119
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	3.45	4.73	0.01	0.16	—	0.16	0.14	—	0.14	—	701	701	0.03	0.01	—	704

Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	3.47	3.47	< 0.005	0.35	0.35	—	81.1	81.1	< 0.005	0.01	0.09	84.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.63	0.86	< 0.005	0.03	—	0.03	0.03	—	0.03	—	116	116	< 0.005	< 0.005	—	117
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.63	0.63	< 0.005	0.06	0.06	—	13.4	13.4	< 0.005	< 0.005	0.01	14.0
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	4.81	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,063	1,063	0.04	0.04	3.31	1,079
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.32	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.34	4.07	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,008	1,008	0.01	0.04	0.09	1,020
Vendor	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.01	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.25	3.06	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	731	731	0.01	0.03	1.02	740

Vendor	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.10	91.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.56	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.17	123
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.02	15.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Paving (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	4.82	6.63	0.01	0.22	—	0.22	0.20	—	0.20	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	114	114	0.01	0.02	0.28	119
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	4.82	6.63	0.01	0.22	—	0.22	0.20	—	0.20	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—

Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	114	114	0.01	0.02	0.01	119
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	3.45	4.73	0.01	0.16	—	0.16	0.14	—	0.14	—	701	701	0.03	0.01	—	704
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	3.47	3.47	< 0.005	0.35	0.35	—	81.1	81.1	< 0.005	0.01	0.09	84.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.63	0.86	< 0.005	0.03	—	0.03	0.03	—	0.03	—	116	116	< 0.005	< 0.005	—	117
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.63	0.63	< 0.005	0.06	0.06	—	13.4	13.4	< 0.005	< 0.005	0.01	14.0
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	4.81	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,063	1,063	0.04	0.04	3.31	1,079
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.32	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.34	4.07	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,008	1,008	0.01	0.04	0.09	1,020
Vendor	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.01	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.25	3.06	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	731	731	0.01	0.03	1.02	740
Vendor	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.10	91.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.56	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.17	123
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.02	15.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Paving (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	4.57	6.62	0.01	0.19	—	0.19	0.18	—	0.18	—	982	982	0.04	0.01	—	986

Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	111	111	0.01	0.02	0.01	116
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.42	0.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	90.3	90.3	< 0.005	< 0.005	—	90.6
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.05	—	10.2	10.2	< 0.005	< 0.005	0.01	10.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.0	15.0	< 0.005	< 0.005	—	15.0
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.69	1.69	< 0.005	< 0.005	< 0.005	1.77
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.27	0.31	3.84	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	990	990	0.01	0.04	0.08	1,002
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.01	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	92.4	92.4	< 0.005	< 0.005	0.12	93.6
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.02	15.5
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.82	1.82	< 0.005	< 0.005	< 0.005	1.90
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Paving (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	4.57	6.62	0.01	0.19	—	0.19	0.18	—	0.18	—	982	982	0.04	0.01	—	986
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	< 0.005	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	111	111	0.01	0.02	0.01	116
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.42	0.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	90.3	90.3	< 0.005	< 0.005	—	90.6
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.05	—	10.2	10.2	< 0.005	< 0.005	0.01	10.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.0	15.0	< 0.005	< 0.005	—	15.0
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.69	1.69	< 0.005	< 0.005	< 0.005	1.77
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.31	3.84	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	990	990	0.01	0.04	0.08	1,002
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.01	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	92.4	92.4	< 0.005	< 0.005	0.12	93.6
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.02	15.5
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.82	1.82	< 0.005	< 0.005	< 0.005	1.90
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Architectural Coating (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.38	8.93	0.01	0.20	—	0.20	0.18	—	0.18	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	90.0	90.0	0.01	0.01	0.23	94.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.38	8.93	0.01	0.20	—	0.20	0.18	—	0.18	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.14	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	90.1	90.1	0.01	0.01	0.01	94.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.40	3.77	6.26	0.01	0.14	—	0.14	0.13	—	0.13	—	994	994	0.04	0.01	—	997
Onsite truck	< 0.005	0.10	0.06	< 0.005	< 0.005	2.65	2.65	< 0.005	0.27	0.27	—	63.1	63.1	< 0.005	0.01	0.07	66.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.69	1.14	< 0.005	0.03	—	0.03	0.02	—	0.02	—	165	165	0.01	< 0.005	—	165
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.48	0.48	< 0.005	0.05	0.05	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.29	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	271	271	0.01	0.01	0.92	275
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.31	143
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.10	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	257	257	0.01	0.01	0.02	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.07	0.81	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	0.01	0.01	0.28	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.3	95.3	0.01	0.02	0.09	100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.05	30.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.02	16.6

3.18. Architectural Coating (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.38	8.93	0.01	0.20	—	0.20	0.18	—	0.18	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	90.0	90.0	0.01	0.01	0.23	94.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.38	8.93	0.01	0.20	—	0.20	0.18	—	0.18	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.14	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	90.1	90.1	0.01	0.01	0.01	94.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	3.77	6.26	0.01	0.14	—	0.14	0.13	—	0.13	—	994	994	0.04	0.01	—	997
Onsite truck	< 0.005	0.10	0.06	< 0.005	< 0.005	2.65	2.65	< 0.005	0.27	0.27	—	63.1	63.1	< 0.005	0.01	0.07	66.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.69	1.14	< 0.005	0.03	—	0.03	0.02	—	0.02	—	165	165	0.01	< 0.005	—	165
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.48	0.48	< 0.005	0.05	0.05	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.29	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	271	271	0.01	0.01	0.92	275
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.31	143
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.10	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	257	257	0.01	0.01	0.02	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.07	0.81	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	0.01	0.01	0.28	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.3	95.3	0.01	0.02	0.09	100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.05	30.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.02	16.6

3.19. Architectural Coating (2027) - Unmitigated

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

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

Off-Road Equipment	0.54	5.09	8.92	0.01	0.17	—	0.17	0.16	—	0.16	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	88.3	88.3	0.01	0.01	0.22	92.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	5.09	8.92	0.01	0.17	—	0.17	0.16	—	0.16	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.14	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	88.4	88.4	0.01	0.01	0.01	92.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	3.63	6.37	0.01	0.12	—	0.12	0.11	—	0.11	—	1,014	1,014	0.04	0.01	—	1,017
Onsite truck	< 0.005	0.10	0.05	< 0.005	< 0.005	2.70	2.70	< 0.005	0.27	0.27	—	63.1	63.1	< 0.005	0.01	0.07	65.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.66	1.16	< 0.005	0.02	—	0.02	0.02	—	0.02	—	168	168	0.01	< 0.005	—	168
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.49	0.49	< 0.005	0.05	0.05	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	1.20	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	266	266	0.01	0.01	0.83	270
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.28	140
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.02	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	252	252	< 0.005	0.01	0.02	255

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.01	140
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.06	0.76	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	< 0.005	0.01	0.25	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.3	95.3	< 0.005	0.02	0.09	100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.04	30.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.01	16.6

3.20. Architectural Coating (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	5.09	8.92	0.01	0.17	—	0.17	0.16	—	0.16	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	88.3	88.3	0.01	0.01	0.22	92.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	5.09	8.92	0.01	0.17	—	0.17	0.16	—	0.16	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.14	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	88.4	88.4	0.01	0.01	0.01	92.2

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	3.63	6.37	0.01	0.12	—	0.12	0.11	—	0.11	—	1,014	1,014	0.04	0.01	—	1,017
Onsite truck	< 0.005	0.10	0.05	< 0.005	< 0.005	2.70	2.70	< 0.005	0.27	0.27	—	63.1	63.1	< 0.005	0.01	0.07	65.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.66	1.16	< 0.005	0.02	—	0.02	0.02	—	0.02	—	168	168	0.01	< 0.005	—	168
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.49	0.49	< 0.005	0.05	0.05	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	1.20	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	266	266	0.01	0.01	0.83	270
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.28	140
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.02	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	252	252	< 0.005	0.01	0.02	255
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.01	140
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.06	0.76	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	< 0.005	0.01	0.25	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.3	95.3	< 0.005	0.02	0.09	100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.04	30.6

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.01	16.6

3.21. Architectural Coating (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	4.86	8.93	0.01	0.15	—	0.15	0.14	—	0.14	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	86.4	86.4	< 0.005	0.01	0.01	90.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.45	0.82	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.03	0.04	—	7.94	7.94	< 0.005	< 0.005	0.01	8.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.6	21.6	< 0.005	< 0.005	—	21.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.37
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.96	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	247	247	< 0.005	0.01	0.02	250
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	130	130	0.01	0.02	0.01	137
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.1	23.1	< 0.005	< 0.005	0.03	23.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.01	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.82	3.82	< 0.005	< 0.005	< 0.005	3.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.08

3.22. Architectural Coating (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	4.86	8.93	0.01	0.15	—	0.15	0.14	—	0.14	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	86.4	86.4	< 0.005	0.01	0.01	90.2

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.45	0.82	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.03	0.04	—	7.94	7.94	< 0.005	< 0.005	0.01	8.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.6	21.6	< 0.005	< 0.005	—	21.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.37
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.96	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	247	247	< 0.005	0.01	0.02	250
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	130	130	0.01	0.02	0.01	137
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.1	23.1	< 0.005	< 0.005	0.03	23.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.01	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.82	3.82	< 0.005	< 0.005	< 0.005	3.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.08

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	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	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	11/14/2024	1/1/2025	5.00	35.0	site clearing
Grading	Grading	1/2/2025	4/2/2025	5.00	65.0	excavation and grading
Building Construction	Building Construction	4/3/2025	1/7/2026	5.00	200	installation of park canopies and structures
Paving	Paving	1/8/2026	2/16/2028	5.00	550	paving of parking lot and access roads/paths
Architectural Coating	Architectural Coating	1/8/2026	2/16/2028	5.00	550	landscaping & finishing on structures

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	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Air Compressors	Diesel	Average	1.00	4.00	37.0	0.48
Site Preparation	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
Site Preparation	Aerial Lifts	Diesel	Average	5.00	6.00	46.0	0.31
Site Preparation	Rubber Tired Loaders	Diesel	Average	2.00	6.00	150	0.36
Site Preparation	Welders	Diesel	Average	3.00	4.00	46.0	0.45
Site Preparation	Cranes	Diesel	Average	1.00	4.00	367	0.29
Grading	Graders	Diesel	Average	2.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	6.00	7.00	84.0	0.37
Grading	Air Compressors	Diesel	Average	2.00	6.00	37.0	0.48
Grading	Rollers	Diesel	Average	1.00	6.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	5.00	7.00	150	0.36
Grading	Welders	Diesel	Average	3.00	7.00	46.0	0.45
Grading	Aerial Lifts	Diesel	Average	9.00	6.00	46.0	0.31
Grading	Generator Sets	Diesel	Average	2.00	6.00	14.0	0.74
Grading	Cranes	Diesel	Average	1.00	4.00	367	0.29
Grading	Forklifts	Diesel	Average	4.00	7.00	82.0	0.20
Grading	Pressure Washers	Diesel	Average	3.00	6.00	14.0	0.30
Grading	Trenchers	Diesel	Average	1.00	4.00	40.0	0.50
Grading	Surfacing Equipment	Diesel	Average	1.00	4.00	399	0.30
Building Construction	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Rollers	Diesel	Average	2.00	7.00	36.0	0.38
Building Construction	Rubber Tired Loaders	Diesel	Average	4.00	7.00	150	0.36
Building Construction	Skid Steer Loaders	Diesel	Average	2.00	7.00	71.0	0.37
Building Construction	Graders	Diesel	Average	2.00	6.00	148	0.41
Building Construction	Surfacing Equipment	Diesel	Average	1.00	4.00	399	0.30
Building Construction	Off-Highway Tractors	Diesel	Average	1.00	6.00	38.0	0.44
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Graders	Diesel	Average	1.00	6.00	148	0.41
Paving	Welders	Diesel	Average	1.00	6.00	46.0	0.45
Architectural Coating	Skid Steer Loaders	Diesel	Average	2.00	7.00	71.0	0.37
Architectural Coating	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Architectural Coating	Aerial Lifts	Diesel	Average	1.00	7.00	46.0	0.31
Architectural Coating	Rubber Tired Loaders	Diesel	Average	1.00	7.00	150	0.36
Architectural Coating	Trenchers	Diesel	Average	1.00	6.00	40.0	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Air Compressors	Diesel	Average	1.00	4.00	37.0	0.48
Site Preparation	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
Site Preparation	Aerial Lifts	Diesel	Average	5.00	6.00	46.0	0.31
Site Preparation	Rubber Tired Loaders	Diesel	Average	2.00	6.00	150	0.36
Site Preparation	Welders	Diesel	Average	3.00	4.00	46.0	0.45
Site Preparation	Cranes	Diesel	Average	1.00	4.00	367	0.29

Grading	Graders	Diesel	Average	2.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	6.00	7.00	84.0	0.37
Grading	Air Compressors	Diesel	Average	2.00	6.00	37.0	0.48
Grading	Rollers	Diesel	Average	1.00	6.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	5.00	7.00	150	0.36
Grading	Welders	Diesel	Average	3.00	7.00	46.0	0.45
Grading	Aerial Lifts	Diesel	Average	9.00	6.00	46.0	0.31
Grading	Generator Sets	Diesel	Average	2.00	6.00	14.0	0.74
Grading	Cranes	Diesel	Average	1.00	4.00	367	0.29
Grading	Forklifts	Diesel	Average	4.00	7.00	82.0	0.20
Grading	Pressure Washers	Diesel	Average	3.00	6.00	14.0	0.30
Grading	Trenchers	Diesel	Average	1.00	4.00	40.0	0.50
Grading	Surfacing Equipment	Diesel	Average	1.00	4.00	399	0.30
Building Construction	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Rollers	Diesel	Average	2.00	7.00	36.0	0.38
Building Construction	Rubber Tired Loaders	Diesel	Average	4.00	7.00	150	0.36
Building Construction	Skid Steer Loaders	Diesel	Average	2.00	7.00	71.0	0.37
Building Construction	Graders	Diesel	Average	2.00	6.00	148	0.41
Building Construction	Surfacing Equipment	Diesel	Average	1.00	4.00	399	0.30
Building Construction	Off-Highway Tractors	Diesel	Average	1.00	6.00	38.0	0.44
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Graders	Diesel	Average	1.00	6.00	148	0.41

Paving	Welders	Diesel	Average	1.00	6.00	46.0	0.45
Architectural Coating	Skid Steer Loaders	Diesel	Average	2.00	7.00	71.0	0.37
Architectural Coating	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Architectural Coating	Aerial Lifts	Diesel	Average	1.00	7.00	46.0	0.31
Architectural Coating	Rubber Tired Loaders	Diesel	Average	1.00	7.00	150	0.36
Architectural Coating	Trenchers	Diesel	Average	1.00	6.00	40.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	64.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	6.00	10.2	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	110	18.5	LDA,LDT1,LDT2
Grading	Vendor	10.0	10.2	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	9.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	160	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	20.0	10.2	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	11.0	4.00	HHDT,MHDT
Paving	—	—	—	—

Paving	Worker	80.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	4.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	9.00	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	20.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	2.00	20.0	HHDT
Architectural Coating	Onsite truck	7.00	4.00	HHDT,MHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	64.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	6.00	10.2	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	110	18.5	LDA,LDT1,LDT2
Grading	Vendor	10.0	10.2	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	9.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	160	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	20.0	10.2	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	11.0	4.00	HHDT,MHDT

Paving	—	—	—	—
Paving	Worker	80.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	4.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	9.00	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	20.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	2.00	20.0	HHDT
Architectural Coating	Onsite truck	7.00	4.00	HHDT,MHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	57%	57%

5.5. Architectural Coatings

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

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	0.00	0.00	—

Grading	0.00	0.00	65.0	0.00	—
Paving	0.00	0.00	37.5	0.00	3.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Parking Lot	3.00	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	690	0.05	0.01
2025	0.00	690	0.05	0.01
2026	0.00	690	0.05	0.01
2027	0.00	690	0.05	0.01
2028	0.00	690	0.05	0.01

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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

6.4.1. Wildfire

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
MH-14: Maintain Trails and Parks	Improved Public Health, Social Equity	—	1.00	1.00

6.4.2. Temperature and Extreme Heat

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
D-3: Install Drought Resistant Landscaping	Water Conservation	—	1.00	1.00

EH-9: Expand Urban Tree Canopy	Energy and Fuel Savings, Improved Air Quality, Improved Public Health, Social Equity	1.00	1.00	—
MH-14: Maintain Trails and Parks	Improved Public Health, Social Equity	—	1.00	1.00
MH-23: Landscape with Climate Considerations	Improved Ecosystem Health, Water Conservation	—	1.00	—
MH-41: Expand Urban Greening/Agriculture	Enhanced Food Security, Improved Air Quality, Improved Public Health, Social Equity, Water Conservation	1.00	1.00	1.00

6.4.3. Air Quality Degradation

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
MH-41: Expand Urban Greening/Agriculture	Enhanced Food Security, Improved Air Quality, Improved Public Health, Social Equity, Water Conservation	1.00	1.00	1.00

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	69.6
AQ-PM	65.9
AQ-DPM	47.5
Drinking Water	92.5
Lead Risk Housing	—
Pesticides	0.00
Toxic Releases	70.0

Traffic	99.5
Effect Indicators	—
CleanUp Sites	94.3
Groundwater	36.9
Haz Waste Facilities/Generators	47.6
Impaired Water Bodies	77.3
Solid Waste	89.9
Sensitive Population	—
Asthma	8.92
Cardio-vascular	23.8
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—

High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	87.3
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	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	79.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
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	100.0
SLR Inundation Area	0.0
Children	99.4
Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.9

Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Park construction schedule obtained from PD dated 1-11-24.

Construction: Off-Road Equipment	Equipment inventory provided by LADWP.
Construction: Dust From Material Movement	Included all phases with earthmoving equipment (i.e., grader).
Construction: Trips and VMT	Personnel & vehicle inventories provided by LADWP.
Construction: On-Road Fugitive Dust	Vehicle speeds on unpaved areas limited to 15 mph = 57% dust reduction (SCAQMD Table XI-A)

LADWP Headworks Project - WQL Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LADWP Headworks Project - WQL Construction
Construction Start Date	6/14/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	20.2
Location	34.15313612290838, -118.3185549473283
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3974
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
Research & Development	100	1000sqft	4.85	100,000	111,500	111,500	—	—

Parking Lot	2.15	Acre	2.15	0.00	15,625	15,625	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-4*	Use Local and Sustainable Building Materials

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.2	33.3	37.7	0.08	1.28	9.65	10.3	1.18	1.87	3.05	—	9,448	9,448	0.39	0.22	6.64	9,521
Mit.	12.2	33.3	37.7	0.08	1.28	9.65	10.3	1.18	1.87	3.05	—	9,448	9,448	0.39	0.22	6.64	9,521
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.2	33.4	37.5	0.08	1.28	9.65	10.3	1.18	1.87	3.05	—	9,428	9,428	0.38	0.22	0.17	9,497
Mit.	12.2	33.4	37.5	0.08	1.28	9.65	10.3	1.18	1.87	3.05	—	9,428	9,428	0.38	0.22	0.17	9,497
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	3.82	11.4	15.3	0.03	0.43	5.34	5.60	0.39	0.67	0.99	—	3,510	3,510	0.13	0.09	1.25	3,542
Mit.	3.82	11.4	15.3	0.03	0.43	5.34	5.60	0.39	0.67	0.99	—	3,510	3,510	0.13	0.09	1.25	3,542
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.70	2.09	2.80	0.01	0.08	0.97	1.02	0.07	0.12	0.18	—	581	581	0.02	0.02	0.21	586
Mit.	0.70	2.09	2.80	0.01	0.08	0.97	1.02	0.07	0.12	0.18	—	581	581	0.02	0.02	0.21	586
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.86	33.3	37.7	0.08	1.28	7.16	8.44	1.18	1.87	3.05	—	9,448	9,448	0.39	0.20	3.21	9,521

2028	1.11	11.5	17.4	0.03	0.20	6.81	7.00	0.18	0.79	0.97	—	3,347	3,347	0.11	0.08	2.74	3,376
2029	12.2	18.0	30.3	0.05	0.67	9.65	10.3	0.61	1.28	1.89	—	7,656	7,656	0.26	0.22	6.64	7,734
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.86	33.4	37.5	0.08	1.28	7.16	8.44	1.18	1.87	3.05	—	9,428	9,428	0.38	0.20	0.10	9,497
2028	1.97	16.3	24.4	0.05	0.48	6.81	7.00	0.44	0.79	1.14	—	5,910	5,910	0.23	0.18	0.09	5,969
2029	12.2	18.1	29.0	0.05	0.67	9.65	10.3	0.61	1.28	1.89	—	7,550	7,550	0.26	0.22	0.17	7,622
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.33	11.4	13.4	0.03	0.43	2.59	3.02	0.39	0.60	0.99	—	3,342	3,342	0.13	0.08	0.57	3,368
2028	0.87	8.70	12.8	0.02	0.17	4.52	4.69	0.15	0.53	0.68	—	2,613	2,613	0.09	0.06	0.87	2,635
2029	3.82	9.94	15.3	0.02	0.26	5.34	5.60	0.24	0.67	0.91	—	3,510	3,510	0.12	0.09	1.25	3,542
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.24	2.09	2.45	0.01	0.08	0.47	0.55	0.07	0.11	0.18	—	553	553	0.02	0.01	0.09	558
2028	0.16	1.59	2.34	< 0.005	0.03	0.83	0.86	0.03	0.10	0.12	—	433	433	0.02	0.01	0.14	436
2029	0.70	1.81	2.80	< 0.005	0.05	0.97	1.02	0.04	0.12	0.17	—	581	581	0.02	0.02	0.21	586

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.86	33.3	37.7	0.08	1.28	7.16	8.44	1.18	1.87	3.05	—	9,448	9,448	0.39	0.20	3.21	9,521
2028	1.11	11.5	17.4	0.03	0.20	6.81	7.00	0.18	0.79	0.97	—	3,347	3,347	0.11	0.08	2.74	3,376
2029	12.2	18.0	30.3	0.05	0.67	9.65	10.3	0.61	1.28	1.89	—	7,656	7,656	0.26	0.22	6.64	7,734
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2027	3.86	33.4	37.5	0.08	1.28	7.16	8.44	1.18	1.87	3.05	—	9,428	9,428	0.38	0.20	0.10	9,497
2028	1.97	16.3	24.4	0.05	0.48	6.81	7.00	0.44	0.79	1.14	—	5,910	5,910	0.23	0.18	0.09	5,969
2029	12.2	18.1	29.0	0.05	0.67	9.65	10.3	0.61	1.28	1.89	—	7,550	7,550	0.26	0.22	0.17	7,622
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.33	11.4	13.4	0.03	0.43	2.59	3.02	0.39	0.60	0.99	—	3,342	3,342	0.13	0.08	0.57	3,368
2028	0.87	8.70	12.8	0.02	0.17	4.52	4.69	0.15	0.53	0.68	—	2,613	2,613	0.09	0.06	0.87	2,635
2029	3.82	9.94	15.3	0.02	0.26	5.34	5.60	0.24	0.67	0.91	—	3,510	3,510	0.12	0.09	1.25	3,542
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.24	2.09	2.45	0.01	0.08	0.47	0.55	0.07	0.11	0.18	—	553	553	0.02	0.01	0.09	558
2028	0.16	1.59	2.34	< 0.005	0.03	0.83	0.86	0.03	0.10	0.12	—	433	433	0.02	0.01	0.14	436
2029	0.70	1.81	2.80	< 0.005	0.05	0.97	1.02	0.04	0.12	0.17	—	581	581	0.02	0.02	0.21	586

3. Construction Emissions Details

3.1. Site Preparation (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.73	32.3	35.5	0.08	1.28	—	1.28	1.17	—	1.17	—	8,243	8,243	0.33	0.07	—	8,272
Dust From Material Movement	—	—	—	—	—	3.18	3.18	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.07	0.04	< 0.005	< 0.005	3.38	3.38	< 0.005	0.34	0.34	—	50.5	50.5	< 0.005	0.01	0.13	52.8

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.73	32.3	35.5	0.08	1.28	—	1.28	1.17	—	1.17	—	8,243	8,243	0.33	0.07	—	8,272
Dust From Material Movement	—	—	—	—	—	3.18	3.18	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.04	< 0.005	< 0.005	3.38	3.38	< 0.005	0.34	0.34	—	50.5	50.5	< 0.005	0.01	< 0.005	52.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.30	10.2	0.02	0.37	—	0.37	0.34	—	0.34	—	2,371	2,371	0.10	0.02	—	2,380
Dust From Material Movement	—	—	—	—	—	0.91	0.91	—	0.40	0.40	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.92	0.92	< 0.005	0.09	0.09	—	14.5	14.5	< 0.005	< 0.005	0.02	15.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.70	1.86	< 0.005	0.07	—	0.07	0.06	—	0.06	—	393	393	0.02	< 0.005	—	394
Dust From Material Movement	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.17	0.17	< 0.005	0.02	0.02	—	2.40	2.40	< 0.005	< 0.005	< 0.005	2.51
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	1.80	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	399	399	0.02	0.01	1.24	405

Vendor	0.01	0.53	0.25	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	1.28	511
Hauling	< 0.005	0.32	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.57	281
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.13	1.53	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	378	378	0.01	0.01	0.03	382
Vendor	0.01	0.55	0.26	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	0.03	510
Hauling	< 0.005	0.33	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.01	280
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.46	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.15	112
Vendor	< 0.005	0.16	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	0.01	0.02	0.16	147
Hauling	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	76.7	76.7	< 0.005	0.01	0.07	80.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.3	18.3	< 0.005	< 0.005	0.03	18.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.3	23.3	< 0.005	< 0.005	0.03	24.3
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3

3.2. Site Preparation (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.73	32.3	35.5	0.08	1.28	—	1.28	1.17	—	1.17	—	8,243	8,243	0.33	0.07	—	8,272

Dust From Material Movement	—	—	—	—	—	3.18	3.18	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.07	0.04	< 0.005	< 0.005	3.38	3.38	< 0.005	0.34	0.34	—	50.5	50.5	< 0.005	0.01	0.13	52.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.73	32.3	35.5	0.08	1.28	—	1.28	1.17	—	1.17	—	8,243	8,243	0.33	0.07	—	8,272
Dust From Material Movement	—	—	—	—	—	3.18	3.18	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.04	< 0.005	< 0.005	3.38	3.38	< 0.005	0.34	0.34	—	50.5	50.5	< 0.005	0.01	< 0.005	52.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.30	10.2	0.02	0.37	—	0.37	0.34	—	0.34	—	2,371	2,371	0.10	0.02	—	2,380
Dust From Material Movement	—	—	—	—	—	0.91	0.91	—	0.40	0.40	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.92	0.92	< 0.005	0.09	0.09	—	14.5	14.5	< 0.005	< 0.005	0.02	15.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.70	1.86	< 0.005	0.07	—	0.07	0.06	—	0.06	—	393	393	0.02	< 0.005	—	394
Dust From Material Movement	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.17	0.17	< 0.005	0.02	0.02	—	2.40	2.40	< 0.005	< 0.005	< 0.005	2.51

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	1.80	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	399	399	0.02	0.01	1.24	405
Vendor	0.01	0.53	0.25	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	1.28	511
Hauling	< 0.005	0.32	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.57	281
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.13	1.53	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	378	378	0.01	0.01	0.03	382
Vendor	0.01	0.55	0.26	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	0.03	510
Hauling	< 0.005	0.33	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.01	280
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.46	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.15	112
Vendor	< 0.005	0.16	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	0.01	0.02	0.16	147
Hauling	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	76.7	76.7	< 0.005	0.01	0.07	80.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.3	18.3	< 0.005	< 0.005	0.03	18.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.3	23.3	< 0.005	< 0.005	0.03	24.3
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3

3.3. Grading (2027) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.89	16.1	22.1	0.05	0.53	—	0.53	0.49	—	0.49	—	4,601	4,601	0.19	0.04	—	4,616
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	5.13	5.13	< 0.005	0.51	0.51	—	75.8	75.8	< 0.005	0.01	< 0.005	79.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.70	2.34	< 0.005	0.06	—	0.06	0.05	—	0.05	—	486	486	0.02	< 0.005	—	488
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.51	0.51	< 0.005	0.05	0.05	—	8.00	8.00	< 0.005	< 0.005	0.01	8.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.31	0.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.5	80.5	< 0.005	< 0.005	—	80.8
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.38
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.17	2.04	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	504	504	0.01	0.02	0.04	510
Vendor	0.01	0.55	0.26	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	0.03	510
Hauling	< 0.005	0.33	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.01	280
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.0	54.0	< 0.005	< 0.005	0.08	54.7
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.7	51.7	< 0.005	0.01	0.06	53.9
Hauling	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.2	28.2	< 0.005	< 0.005	0.03	29.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.95	8.95	< 0.005	< 0.005	0.01	9.06
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.56	8.56	< 0.005	< 0.005	0.01	8.93
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.67	4.67	< 0.005	< 0.005	< 0.005	4.90

3.4. Grading (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.89	16.1	22.1	0.05	0.53	—	0.53	0.49	—	0.49	—	4,601	4,601	0.19	0.04	—	4,616

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	5.13	5.13	< 0.005	0.51	0.51	—	75.8	75.8	< 0.005	0.01	< 0.005	79.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.70	2.34	< 0.005	0.06	—	0.06	0.05	—	0.05	—	486	486	0.02	< 0.005	—	488
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.51	0.51	< 0.005	0.05	0.05	—	8.00	8.00	< 0.005	< 0.005	0.01	8.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.31	0.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.5	80.5	< 0.005	< 0.005	—	80.8
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.38
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.17	2.04	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	504	504	0.01	0.02	0.04	510
Vendor	0.01	0.55	0.26	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	0.03	510
Hauling	< 0.005	0.33	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.01	280

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.0	54.0	< 0.005	< 0.005	0.08	54.7
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.7	51.7	< 0.005	0.01	0.06	53.9
Hauling	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.2	28.2	< 0.005	< 0.005	0.03	29.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.95	8.95	< 0.005	< 0.005	0.01	9.06
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.56	8.56	< 0.005	< 0.005	0.01	8.93
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.67	4.67	< 0.005	< 0.005	< 0.005	4.90

3.5. Grading (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.81	15.2	22.1	0.05	0.47	—	0.47	0.44	—	0.44	—	4,602	4,602	0.19	0.04	—	4,618
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.11	0.06	< 0.005	< 0.005	5.13	5.13	< 0.005	0.51	0.51	—	74.1	74.1	< 0.005	0.01	< 0.005	77.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	1.46	2.12	< 0.005	0.05	—	0.05	0.04	—	0.04	—	441	441	0.02	< 0.005	—	443

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.47	0.47	< 0.005	0.05	0.05	—	7.10	7.10	< 0.005	< 0.005	0.01	7.42
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.27	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	73.1	73.1	< 0.005	< 0.005	—	73.3
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.16	1.92	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	495	495	0.01	0.02	0.04	501
Vendor	0.01	0.52	0.24	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	478	478	0.02	0.07	0.03	499
Hauling	< 0.005	0.32	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	261	261	0.01	0.04	0.01	274
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.2	48.2	< 0.005	< 0.005	0.06	48.8
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	45.8	45.8	< 0.005	0.01	0.05	47.8
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.0	25.0	< 0.005	< 0.005	0.02	26.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.97	7.97	< 0.005	< 0.005	0.01	8.08
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.59	7.59	< 0.005	< 0.005	0.01	7.92

Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	< 0.005	4.35

3.6. Grading (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.81	15.2	22.1	0.05	0.47	—	0.47	0.44	—	0.44	—	4,602	4,602	0.19	0.04	—	4,618
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.11	0.06	< 0.005	< 0.005	5.13	5.13	< 0.005	0.51	0.51	—	74.1	74.1	< 0.005	0.01	< 0.005	77.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	1.46	2.12	< 0.005	0.05	—	0.05	0.04	—	0.04	—	441	441	0.02	< 0.005	—	443
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.47	0.47	< 0.005	0.05	0.05	—	7.10	7.10	< 0.005	< 0.005	0.01	7.42
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.27	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	73.1	73.1	< 0.005	< 0.005	—	73.3

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.16	1.92	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	495	495	0.01	0.02	0.04	501
Vendor	0.01	0.52	0.24	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	478	478	0.02	0.07	0.03	499
Hauling	< 0.005	0.32	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	261	261	0.01	0.04	0.01	274
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.2	48.2	< 0.005	< 0.005	0.06	48.8
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	45.8	45.8	< 0.005	0.01	0.05	47.8
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.0	25.0	< 0.005	< 0.005	0.02	26.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.97	7.97	< 0.005	< 0.005	0.01	8.08
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.59	7.59	< 0.005	< 0.005	0.01	7.92
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	< 0.005	4.35

3.7. Building Construction (2028) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	11.1	13.9	0.02	0.19	—	0.19	0.18	—	0.18	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	86.3	86.3	< 0.005	0.01	0.21	90.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	11.1	13.9	0.02	0.19	—	0.19	0.18	—	0.18	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	86.4	86.4	< 0.005	0.01	0.01	90.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	6.84	8.55	0.01	0.12	—	0.12	0.11	—	0.11	—	1,454	1,454	0.06	0.01	—	1,459
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	3.49	3.49	< 0.005	0.35	0.35	—	53.2	53.2	< 0.005	0.01	0.05	55.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	1.25	1.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	241	241	0.01	< 0.005	—	241
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.64	0.64	< 0.005	0.06	0.06	—	8.81	8.81	< 0.005	< 0.005	0.01	9.21
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.20	3.38	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	783	783	0.01	0.03	2.23	794
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	119	119	< 0.005	0.02	0.30	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.23	2.88	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	742	742	0.01	0.03	0.06	751
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.01	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.14	1.85	0.00	0.00	0.48	0.48	0.00	0.11	0.11	—	464	464	0.01	0.02	0.60	470
Vendor	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.6	73.6	< 0.005	0.01	0.08	76.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.34	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	76.9	76.9	< 0.005	< 0.005	0.10	77.9
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.01	12.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	11.1	13.9	0.02	0.19	—	0.19	0.18	—	0.18	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	86.3	86.3	< 0.005	0.01	0.21	90.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.90	11.1	13.9	0.02	0.19	—	0.19	0.18	—	0.18	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	86.4	86.4	< 0.005	0.01	0.01	90.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	6.84	8.55	0.01	0.12	—	0.12	0.11	—	0.11	—	1,454	1,454	0.06	0.01	—	1,459
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	3.49	3.49	< 0.005	0.35	0.35	—	53.2	53.2	< 0.005	0.01	0.05	55.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	1.25	1.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	241	241	0.01	< 0.005	—	241
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.64	0.64	< 0.005	0.06	0.06	—	8.81	8.81	< 0.005	< 0.005	0.01	9.21
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.20	3.38	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	783	783	0.01	0.03	2.23	794
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	119	119	< 0.005	0.02	0.30	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.23	2.88	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	742	742	0.01	0.03	0.06	751
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.01	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.14	1.85	0.00	0.00	0.48	0.48	0.00	0.11	0.11	—	464	464	0.01	0.02	0.60	470
Vendor	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.6	73.6	< 0.005	0.01	0.08	76.9

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.34	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	76.9	76.9	< 0.005	< 0.005	0.10	77.9
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.01	12.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2029) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	11.0	13.9	0.02	0.18	—	0.18	0.17	—	0.17	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	84.1	84.1	< 0.005	0.01	0.20	88.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	11.0	13.9	0.02	0.18	—	0.18	0.17	—	0.17	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	84.2	84.2	< 0.005	0.01	0.01	88.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	4.77	6.02	0.01	0.08	—	0.08	0.07	—	0.07	—	1,024	1,024	0.04	0.01	—	1,028
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	2.46	2.46	< 0.005	0.25	0.25	—	36.6	36.6	< 0.005	0.01	0.04	38.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.07	0.87	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	170	170	0.01	< 0.005	—	170
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.04	—	6.05	6.05	< 0.005	< 0.005	0.01	6.33
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	3.16	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	770	770	0.01	0.03	2.00	780
Vendor	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.28	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.21	2.68	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	730	730	0.01	0.03	0.05	739
Vendor	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.01	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.09	1.22	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	322	322	< 0.005	0.01	0.38	326
Vendor	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	50.5	50.5	< 0.005	0.01	0.05	52.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	53.3	53.3	< 0.005	< 0.005	0.06	54.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.37	8.37	< 0.005	< 0.005	0.01	8.74
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2029) - Mitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	11.0	13.9	0.02	0.18	—	0.18	0.17	—	0.17	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	84.1	84.1	< 0.005	0.01	0.20	88.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	11.0	13.9	0.02	0.18	—	0.18	0.17	—	0.17	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	84.2	84.2	< 0.005	0.01	0.01	88.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	4.77	6.02	0.01	0.08	—	0.08	0.07	—	0.07	—	1,024	1,024	0.04	0.01	—	1,028
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	2.46	2.46	< 0.005	0.25	0.25	—	36.6	36.6	< 0.005	0.01	0.04	38.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.87	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	170	170	0.01	< 0.005	—	170
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.04	—	6.05	6.05	< 0.005	< 0.005	0.01	6.33
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	3.16	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	770	770	0.01	0.03	2.00	780
Vendor	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.28	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.21	2.68	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	730	730	0.01	0.03	0.05	739
Vendor	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.01	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.09	1.22	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	322	322	< 0.005	0.01	0.38	326
Vendor	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	50.5	50.5	< 0.005	0.01	0.05	52.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	53.3	53.3	< 0.005	< 0.005	0.06	54.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.37	8.37	< 0.005	< 0.005	0.01	8.74
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2029) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.03	4.03	0.01	0.12	—	0.12	0.11	—	0.11	—	599	599	0.02	< 0.005	—	601
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.15	0.09	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	108	108	0.01	0.02	0.25	113

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.03	4.03	0.01	0.12	—	0.12	0.11	—	0.11	—	599	599	0.02	< 0.005	—	601
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	108	108	0.01	0.02	0.01	113
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.11	< 0.005	0.03	—	0.03	0.03	—	0.03	—	164	164	0.01	< 0.005	—	165
Paving	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.04	0.03	< 0.005	< 0.005	1.33	1.33	< 0.005	0.13	0.13	—	29.6	29.6	< 0.005	< 0.005	0.03	31.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.2	27.2	< 0.005	< 0.005	—	27.3
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	4.91	4.91	< 0.005	< 0.005	< 0.005	5.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	4.22	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,026	1,026	0.01	0.04	2.66	1,041
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.59	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	509	509	0.03	0.08	0.98	534
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.27	3.57	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	973	973	0.01	0.04	0.07	985

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.61	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	509	509	0.03	0.08	0.03	534
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	271	271	< 0.005	0.01	0.32	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.12	146
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.05	45.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.1	23.1	< 0.005	< 0.005	0.02	24.2

3.12. Paving (2029) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.03	4.03	0.01	0.12	—	0.12	0.11	—	0.11	—	599	599	0.02	< 0.005	—	601
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.15	0.09	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	108	108	0.01	0.02	0.25	113
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.03	4.03	0.01	0.12	—	0.12	0.11	—	0.11	—	599	599	0.02	< 0.005	—	601
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	108	108	0.01	0.02	0.01	113
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.11	< 0.005	0.03	—	0.03	0.03	—	0.03	—	164	164	0.01	< 0.005	—	165
Paving	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.04	0.03	< 0.005	< 0.005	1.33	1.33	< 0.005	0.13	0.13	—	29.6	29.6	< 0.005	< 0.005	0.03	31.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.2	27.2	< 0.005	< 0.005	—	27.3
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	4.91	4.91	< 0.005	< 0.005	< 0.005	5.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	4.22	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,026	1,026	0.01	0.04	2.66	1,041
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.59	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	509	509	0.03	0.08	0.98	534
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.27	3.57	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	973	973	0.01	0.04	0.07	985
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.61	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	509	509	0.03	0.08	0.03	534
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	271	271	< 0.005	0.01	0.32	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.12	146
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.05	45.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.1	23.1	< 0.005	< 0.005	0.02	24.2

3.13. Architectural Coating (2029) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	13.7	17.5	0.04	0.54	—	0.54	0.49	—	0.49	—	4,351	4,351	0.18	0.04	—	4,366
Dust From Material Movement	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	9.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.71	1.72	< 0.005	0.17	0.17	—	36.0	36.0	< 0.005	0.01	0.08	37.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	13.7	17.5	0.04	0.54	—	0.54	0.49	—	0.49	—	4,351	4,351	0.18	0.04	—	4,366
Dust From Material Movement	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—

Architectu Coatings	9.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.71	1.72	< 0.005	0.17	0.17	—	36.1	36.1	< 0.005	0.01	< 0.005	37.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	3.76	4.79	0.01	0.15	—	0.15	0.14	—	0.14	—	1,192	1,192	0.05	0.01	—	1,196
Dust From Material Movement	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—	—	—	—
Architectu ral Coatings	2.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.44	0.44	< 0.005	0.04	0.04	—	9.88	9.88	< 0.005	< 0.005	0.01	10.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.69	0.87	< 0.005	0.03	—	0.03	0.02	—	0.02	—	197	197	0.01	< 0.005	—	198
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectu ral Coatings	0.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.64	1.64	< 0.005	< 0.005	< 0.005	1.71
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	4.22	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,026	1,026	0.01	0.04	2.66	1,041
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.27	3.57	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	973	973	0.01	0.04	0.07	985
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	271	271	< 0.005	0.01	0.32	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.05	45.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2029) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	13.7	17.5	0.04	0.54	—	0.54	0.49	—	0.49	—	4,351	4,351	0.18	0.04	—	4,366
Dust From Material Movement	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—

Architectu Coatings	9.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.71	1.72	< 0.005	0.17	0.17	—	36.0	36.0	< 0.005	0.01	0.08	37.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	13.7	17.5	0.04	0.54	—	0.54	0.49	—	0.49	—	4,351	4,351	0.18	0.04	—	4,366
Dust From Material Movement	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Architectu ral Coatings	9.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.71	1.72	< 0.005	0.17	0.17	—	36.1	36.1	< 0.005	0.01	< 0.005	37.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	3.76	4.79	0.01	0.15	—	0.15	0.14	—	0.14	—	1,192	1,192	0.05	0.01	—	1,196
Dust From Material Movement	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—	—	—	—
Architectu ral Coatings	2.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.44	0.44	< 0.005	0.04	0.04	—	9.88	9.88	< 0.005	< 0.005	0.01	10.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.69	0.87	< 0.005	0.03	—	0.03	0.02	—	0.02	—	197	197	0.01	< 0.005	—	198

Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	0.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.64	1.64	< 0.005	< 0.005	< 0.005	1.71
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	4.22	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,026	1,026	0.01	0.04	2.66	1,041
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.27	3.57	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	973	973	0.01	0.04	0.07	985
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	271	271	< 0.005	0.01	0.32	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.05	45.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	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	6/14/2027	11/5/2027	5.00	105	—
Grading	Grading	11/8/2027	2/18/2028	5.00	75.0	—
Building Construction	Building Construction	2/21/2028	8/10/2029	5.00	385	—
Paving	Paving	8/13/2029	12/28/2029	5.00	100	—
Architectural Coating	Architectural Coating	8/13/2029	12/28/2029	5.00	100	—

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	2.00	6.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Site Preparation	Scrapers	Diesel	Average	3.00	6.00	423	0.48
Site Preparation	Off-Highway Tractors	Diesel	Average	2.00	6.00	38.0	0.44
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Grading	Skid Steer Loaders	Diesel	Average	1.00	7.00	71.0	0.37
Grading	Surfacing Equipment	Diesel	Average	1.00	6.00	399	0.30
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Pressure Washers	Diesel	Average	2.00	6.00	14.0	0.30
Grading	Cranes	Diesel	Average	2.00	6.00	367	0.29
Grading	Welders	Diesel	Average	4.00	6.00	46.0	0.45
Building Construction	Forklifts	Electric	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Aerial Lifts	Diesel	Average	8.00	8.00	46.0	0.31
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Forklifts	Electric	Average	1.00	8.00	82.0	0.20
Architectural Coating	Graders	Diesel	Average	1.00	8.00	148	0.41
Architectural Coating	Scrapers	Diesel	Average	2.00	6.00	423	0.48

Architectural Coating	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Architectural Coating	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Architectural Coating	Trenchers	Diesel	Average	1.00	6.00	40.0	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	2.00	6.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Site Preparation	Scrapers	Diesel	Average	3.00	6.00	423	0.48
Site Preparation	Off-Highway Tractors	Diesel	Average	2.00	6.00	38.0	0.44
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Grading	Skid Steer Loaders	Diesel	Average	1.00	7.00	71.0	0.37
Grading	Surfacing Equipment	Diesel	Average	1.00	6.00	399	0.30
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Pressure Washers	Diesel	Average	2.00	6.00	14.0	0.30
Grading	Cranes	Diesel	Average	2.00	6.00	367	0.29
Grading	Welders	Diesel	Average	4.00	6.00	46.0	0.45
Building Construction	Forklifts	Electric	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37

Building Construction	Aerial Lifts	Diesel	Average	8.00	8.00	46.0	0.31
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Forklifts	Electric	Average	1.00	8.00	82.0	0.20
Architectural Coating	Graders	Diesel	Average	1.00	8.00	148	0.41
Architectural Coating	Scrapers	Diesel	Average	2.00	6.00	423	0.48
Architectural Coating	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Architectural Coating	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Architectural Coating	Trenchers	Diesel	Average	1.00	6.00	40.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	30.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	16.0	10.2	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	40.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	16.0	10.2	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	6.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	60.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	4.00	10.2	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	7.00	4.00	HHDT,MHDT
Paving	—	—	—	—
Paving	Worker	80.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	8.00	20.0	HHDT
Paving	Onsite truck	9.00	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	3.00	4.00	HHDT,MHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	30.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	16.0	10.2	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	40.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	16.0	10.2	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	6.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	60.0	18.5	LDA,LDT1,LDT2

Building Construction	Vendor	4.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	7.00	4.00	HHDT,MHDT
Paving	—	—	—	—
Paving	Worker	80.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	8.00	20.0	HHDT
Paving	Onsite truck	9.00	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	3.00	4.00	HHDT,MHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	57%	57%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	150,000	50,000	5,619

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	315	0.00	—
Grading	0.00	0.00	0.00	0.00	—
Paving	0.00	0.00	0.00	0.00	2.15
Architectural Coating	0.00	0.00	200	0.00	—

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

Land Use	Area Paved (acres)	% Asphalt
Research & Development	0.00	0%
Parking Lot	2.15	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	690	0.05	0.01
2028	196	690	0.05	0.01
2029	294	690	0.05	0.01

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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	69.6

AQ-PM	65.9
AQ-DPM	47.5
Drinking Water	92.5
Lead Risk Housing	—
Pesticides	0.00
Toxic Releases	70.0
Traffic	99.5
Effect Indicators	—
CleanUp Sites	94.3
Groundwater	36.9
Haz Waste Facilities/Generators	47.6
Impaired Water Bodies	77.3
Solid Waste	89.9
Sensitive Population	—
Asthma	8.92
Cardio-vascular	23.8
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—

Insured adults	—
Arthritis	0.0
Asthma ER Admissions	87.3
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	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	79.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
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	100.0
SLR Inundation Area	0.0
Children	99.4

Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.9
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses based off PD and updated site plan.
Construction: Construction Phases	Schedule provided by LADWP.
Construction: Off-Road Equipment	Equipment inventory provided by LADWP.
Construction: Dust From Material Movement	All earthwork balanced on-site.
Construction: Trips and VMT	Personnel & vehicle inventories provided by LADWP.
Construction: On-Road Fugitive Dust	Limit vehicle speeds on unpaved areas to 15 mph.

LADWP Headworks Project - DPR Demo Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LADWP Headworks Project - DPR Demo Construction
Construction Start Date	5/1/2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	20.2
Location	34.15343780699328, -118.31929069851039
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3974
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
Parking Lot	0.85	Acre	0.85	0.00	0.00	0.00	—	—

Research & Development	25.0	1000sqft	1.37	25,000	34,500	34,500	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-4*	Use Local and Sustainable Building Materials

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.85	22.5	31.6	0.06	0.88	11.4	11.7	0.81	1.65	2.45	—	7,533	7,533	0.30	0.17	3.46	7,594
Mit.	2.85	22.5	31.6	0.06	0.88	11.4	11.7	0.81	1.65	2.45	—	7,533	7,533	0.30	0.17	3.46	7,594
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.99	13.8	24.7	0.04	0.40	11.7	12.1	0.37	1.50	1.87	—	5,925	5,925	0.18	0.16	0.14	5,979
Mit.	2.99	13.8	24.7	0.04	0.40	11.7	12.1	0.37	1.50	1.87	—	5,925	5,925	0.18	0.16	0.14	5,979
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.14	6.28	9.53	0.02	0.20	3.64	3.84	0.18	0.50	0.69	—	2,289	2,289	0.09	0.06	0.62	2,310
Mit.	1.14	6.28	9.53	0.02	0.20	3.64	3.84	0.18	0.50	0.69	—	2,289	2,289	0.09	0.06	0.62	2,310
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.21	1.15	1.74	< 0.005	0.04	0.66	0.70	0.03	0.09	0.13	—	379	379	0.01	0.01	0.10	382
Mit.	0.21	1.15	1.74	< 0.005	0.04	0.66	0.70	0.03	0.09	0.13	—	379	379	0.01	0.01	0.10	382
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	2.85	22.5	31.6	0.06	0.88	11.4	11.7	0.81	1.65	2.45	—	7,533	7,533	0.30	0.17	3.46	7,594
2031	1.67	5.49	7.81	0.01	0.12	3.64	3.76	0.11	0.47	0.58	—	1,684	1,684	0.05	0.02	1.70	1,692
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	1.71	12.8	21.1	0.04	0.26	11.4	11.7	0.24	1.31	1.54	—	4,877	4,877	0.17	0.14	0.09	4,924
2031	2.99	13.8	24.7	0.04	0.40	11.7	12.1	0.37	1.50	1.87	—	5,925	5,925	0.18	0.16	0.14	5,979
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.83	6.28	9.53	0.02	0.20	3.64	3.84	0.18	0.50	0.69	—	2,289	2,289	0.09	0.06	0.50	2,310
2031	1.14	4.19	6.38	0.01	0.10	2.91	3.01	0.09	0.38	0.47	—	1,456	1,456	0.04	0.04	0.62	1,470
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.15	1.15	1.74	< 0.005	0.04	0.66	0.70	0.03	0.09	0.13	—	379	379	0.01	0.01	0.08	382
2031	0.21	0.76	1.16	< 0.005	0.02	0.53	0.55	0.02	0.07	0.09	—	241	241	0.01	0.01	0.10	243

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	2.85	22.5	31.6	0.06	0.88	11.4	11.7	0.81	1.65	2.45	—	7,533	7,533	0.30	0.17	3.46	7,594
2031	1.67	5.49	7.81	0.01	0.12	3.64	3.76	0.11	0.47	0.58	—	1,684	1,684	0.05	0.02	1.70	1,692
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	1.71	12.8	21.1	0.04	0.26	11.4	11.7	0.24	1.31	1.54	—	4,877	4,877	0.17	0.14	0.09	4,924

2031	2.99	13.8	24.7	0.04	0.40	11.7	12.1	0.37	1.50	1.87	—	5,925	5,925	0.18	0.16	0.14	5,979
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.83	6.28	9.53	0.02	0.20	3.64	3.84	0.18	0.50	0.69	—	2,289	2,289	0.09	0.06	0.50	2,310
2031	1.14	4.19	6.38	0.01	0.10	2.91	3.01	0.09	0.38	0.47	—	1,456	1,456	0.04	0.04	0.62	1,470
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.15	1.15	1.74	< 0.005	0.04	0.66	0.70	0.03	0.09	0.13	—	379	379	0.01	0.01	0.08	382
2031	0.21	0.76	1.16	< 0.005	0.02	0.53	0.55	0.02	0.07	0.09	—	241	241	0.01	0.01	0.10	243

3. Construction Emissions Details

3.1. Site Preparation (2030) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	8.08	12.2	0.03	0.33	—	0.33	0.31	—	0.31	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	0.41	0.41	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.07	0.04	< 0.005	< 0.005	4.56	4.56	< 0.005	0.46	0.46	—	46.7	46.7	< 0.005	0.01	0.11	48.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	1.00	1.51	< 0.005	0.04	—	0.04	0.04	—	0.04	—	366	366	0.01	< 0.005	—	367
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.53	0.53	< 0.005	0.05	0.05	—	5.76	5.76	< 0.005	< 0.005	0.01	6.02
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.18	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	60.6	60.6	< 0.005	< 0.005	—	60.8
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	—	0.95	0.95	< 0.005	< 0.005	< 0.005	1.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.49	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	379	379	< 0.005	0.01	0.89	384
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	226	226	0.01	0.03	0.54	236
Hauling	< 0.005	0.14	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	124	124	0.01	0.02	0.23	130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.9	44.9	< 0.005	< 0.005	0.05	45.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.8	27.8	< 0.005	< 0.005	0.03	29.1
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.01	16.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.44	7.44	< 0.005	< 0.005	0.01	7.53
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.81
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.53	2.53	< 0.005	< 0.005	< 0.005	2.66

3.2. Site Preparation (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	8.08	12.2	0.03	0.33	—	0.33	0.31	—	0.31	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	0.41	0.41	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.07	0.04	< 0.005	< 0.005	4.56	4.56	< 0.005	0.46	0.46	—	46.7	46.7	< 0.005	0.01	0.11	48.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.00	1.51	< 0.005	0.04	—	0.04	0.04	—	0.04	—	366	366	0.01	< 0.005	—	367
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.53	0.53	< 0.005	0.05	0.05	—	5.76	5.76	< 0.005	< 0.005	0.01	6.02
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.18	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	60.6	60.6	< 0.005	< 0.005	—	60.8
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	—	0.95	0.95	< 0.005	< 0.005	< 0.005	1.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.49	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	379	379	< 0.005	0.01	0.89	384
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	226	226	0.01	0.03	0.54	236
Hauling	< 0.005	0.14	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	124	124	0.01	0.02	0.23	130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.9	44.9	< 0.005	< 0.005	0.05	45.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.8	27.8	< 0.005	< 0.005	0.03	29.1
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.01	16.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.44	7.44	< 0.005	< 0.005	0.01	7.53
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.81
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.53	2.53	< 0.005	< 0.005	< 0.005	2.66

3.3. Grading (2030) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.74	21.7	29.8	0.06	0.87	—	0.87	0.80	—	0.80	—	6,484	6,484	0.26	0.05	—	6,507
Dust From Material Movement	—	—	—	—	—	2.26	2.26	—	0.94	0.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	5.70	5.70	< 0.005	0.57	0.57	—	58.3	58.3	< 0.005	0.01	0.13	61.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	2.67	3.67	0.01	0.11	—	0.11	0.10	—	0.10	—	799	799	0.03	0.01	—	802
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.66	0.66	< 0.005	0.07	0.07	—	7.20	7.20	< 0.005	< 0.005	0.01	7.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.49	0.67	< 0.005	0.02	—	0.02	0.02	—	0.02	—	132	132	0.01	< 0.005	—	133
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.24
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.49	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	379	379	< 0.005	0.01	0.89	384
Vendor	< 0.005	0.11	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	113	113	< 0.005	0.02	0.27	118
Hauling	0.01	0.57	0.23	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	497	497	0.02	0.08	0.90	522
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.9	44.9	< 0.005	< 0.005	0.05	45.5
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.01	14.5
Hauling	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.2	61.2	< 0.005	0.01	0.05	64.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.44	7.44	< 0.005	< 0.005	0.01	7.53
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.30	2.30	< 0.005	< 0.005	< 0.005	2.41
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.6

3.4. Grading (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.74	21.7	29.8	0.06	0.87	—	0.87	0.80	—	0.80	—	6,484	6,484	0.26	0.05	—	6,507

Dust From Material Movement	—	—	—	—	—	2.26	2.26	—	0.94	0.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	5.70	5.70	< 0.005	0.57	0.57	—	58.3	58.3	< 0.005	0.01	0.13	61.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	2.67	3.67	0.01	0.11	—	0.11	0.10	—	0.10	—	799	799	0.03	0.01	—	802
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.66	0.66	< 0.005	0.07	0.07	—	7.20	7.20	< 0.005	< 0.005	0.01	7.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.49	0.67	< 0.005	0.02	—	0.02	0.02	—	0.02	—	132	132	0.01	< 0.005	—	133
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.24
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.49	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	379	379	< 0.005	0.01	0.89	384
Vendor	< 0.005	0.11	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	113	113	< 0.005	0.02	0.27	118
Hauling	0.01	0.57	0.23	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	497	497	0.02	0.08	0.90	522

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.9	44.9	< 0.005	< 0.005	0.05	45.5
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.01	14.5
Hauling	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.2	61.2	< 0.005	0.01	0.05	64.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.44	7.44	< 0.005	< 0.005	0.01	7.53
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.30	2.30	< 0.005	< 0.005	< 0.005	2.41
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.6

3.5. Building Construction (2030) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.9	17.5	0.03	0.25	—	0.25	0.23	—	0.23	—	3,394	3,394	0.14	0.03	—	3,406
Onsite truck	< 0.005	0.15	0.09	< 0.005	< 0.005	10.3	10.3	< 0.005	1.03	1.03	—	105	105	0.01	0.01	0.24	110
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.9	17.5	0.03	0.25	—	0.25	0.23	—	0.23	—	3,394	3,394	0.14	0.03	—	3,406
Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	10.3	10.3	< 0.005	1.03	1.03	—	105	105	0.01	0.01	0.01	110

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.96	2.87	0.01	0.04	—	0.04	0.04	—	0.04	—	558	558	0.02	< 0.005	—	560
Onsite truck	< 0.005	0.03	0.01	< 0.005	< 0.005	1.59	1.59	< 0.005	0.16	0.16	—	17.3	17.3	< 0.005	< 0.005	0.02	18.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.36	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	92.4	92.4	< 0.005	< 0.005	—	92.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	2.86	2.86	< 0.005	< 0.005	< 0.005	2.99
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.20	3.96	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,010	1,010	0.01	0.04	2.37	1,024
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.40	177
Hauling	< 0.005	0.29	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.45	261
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.24	3.34	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	957	957	0.01	0.04	0.06	969
Vendor	< 0.005	0.18	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.01	177
Hauling	< 0.005	0.30	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.01	261
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.58	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	160	160	< 0.005	0.01	0.17	162
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.8	27.8	< 0.005	< 0.005	0.03	29.1
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.8	40.8	< 0.005	0.01	0.03	42.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.4	26.4	< 0.005	< 0.005	0.03	26.8

Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.81
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.76	6.76	< 0.005	< 0.005	0.01	7.09

3.6. Building Construction (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.9	17.5	0.03	0.25	—	0.25	0.23	—	0.23	—	3,394	3,394	0.14	0.03	—	3,406
Onsite truck	< 0.005	0.15	0.09	< 0.005	< 0.005	10.3	10.3	< 0.005	1.03	1.03	—	105	105	0.01	0.01	0.24	110
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.9	17.5	0.03	0.25	—	0.25	0.23	—	0.23	—	3,394	3,394	0.14	0.03	—	3,406
Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	10.3	10.3	< 0.005	1.03	1.03	—	105	105	0.01	0.01	0.01	110
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.96	2.87	0.01	0.04	—	0.04	0.04	—	0.04	—	558	558	0.02	< 0.005	—	560
Onsite truck	< 0.005	0.03	0.01	< 0.005	< 0.005	1.59	1.59	< 0.005	0.16	0.16	—	17.3	17.3	< 0.005	< 0.005	0.02	18.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.36	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	92.4	92.4	< 0.005	< 0.005	—	92.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	2.86	2.86	< 0.005	< 0.005	< 0.005	2.99

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.20	3.96	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,010	1,010	0.01	0.04	2.37	1,024
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.40	177
Hauling	< 0.005	0.29	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.45	261
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.24	3.34	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	957	957	0.01	0.04	0.06	969
Vendor	< 0.005	0.18	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.01	177
Hauling	< 0.005	0.30	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.01	261
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.58	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	160	160	< 0.005	0.01	0.17	162
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.8	27.8	< 0.005	< 0.005	0.03	29.1
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.8	40.8	< 0.005	0.01	0.03	42.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.4	26.4	< 0.005	< 0.005	0.03	26.8
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.81
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.76	6.76	< 0.005	< 0.005	0.01	7.09

3.7. Paving (2031) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	7.55	12.4	0.02	0.29	—	0.29	0.26	—	0.26	—	2,577	2,577	0.10	0.02	—	2,585
Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.19	0.11	< 0.005	< 0.005	6.29	6.29	< 0.005	0.63	0.63	—	125	125	0.01	0.02	0.01	130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.36	< 0.005	0.03	—	0.03	0.03	—	0.03	—	282	282	0.01	< 0.005	—	283
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.65	0.65	< 0.005	0.07	0.07	—	13.6	13.6	< 0.005	< 0.005	0.01	14.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.7	46.7	< 0.005	< 0.005	—	46.9
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	2.26	2.26	< 0.005	< 0.005	< 0.005	2.36
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.36	4.72	0.00	0.00	1.57	1.57	0.00	0.37	0.37	—	1,415	1,415	0.02	0.06	0.08	1,432
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	164	164	0.01	0.02	0.01	171
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.54	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	157	157	< 0.005	0.01	0.15	159
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.02	18.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.0	26.0	< 0.005	< 0.005	0.02	26.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	< 0.005	3.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2031) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	7.55	12.4	0.02	0.29	—	0.29	0.26	—	0.26	—	2,577	2,577	0.10	0.02	—	2,585

Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.19	0.11	< 0.005	< 0.005	6.29	6.29	< 0.005	0.63	0.63	—	125	125	0.01	0.02	0.01	130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.36	< 0.005	0.03	—	0.03	0.03	—	0.03	—	282	282	0.01	< 0.005	—	283
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.65	0.65	< 0.005	0.07	0.07	—	13.6	13.6	< 0.005	< 0.005	0.01	14.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.7	46.7	< 0.005	< 0.005	—	46.9
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	2.26	2.26	< 0.005	< 0.005	< 0.005	2.36
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.31	0.36	4.72	0.00	0.00	1.57	1.57	0.00	0.37	0.37	—	1,415	1,415	0.02	0.06	0.08	1,432
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	164	164	0.01	0.02	0.01	171
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.54	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	157	157	< 0.005	0.01	0.15	159
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.02	18.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.0	26.0	< 0.005	< 0.005	0.02	26.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	< 0.005	3.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2030) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	5.27	4.98	0.01	0.12	—	0.12	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.09	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	58.4	58.4	< 0.005	0.01	< 0.005	61.0

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.31	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.7	51.7	< 0.005	< 0.005	—	51.9
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.16	0.16	< 0.005	0.02	0.02	—	3.43	3.43	< 0.005	< 0.005	< 0.005	3.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.56	8.56	< 0.005	< 0.005	—	8.59
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.59
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	2.51	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	718	718	0.01	0.03	0.05	727
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	42.8	42.8	< 0.005	< 0.005	0.04	43.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.08	7.08	< 0.005	< 0.005	0.01	7.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Architectural Coating (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	5.27	4.98	0.01	0.12	—	0.12	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.09	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	58.4	58.4	< 0.005	0.01	< 0.005	61.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.31	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.7	51.7	< 0.005	< 0.005	—	51.9
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.16	0.16	< 0.005	0.02	0.02	—	3.43	3.43	< 0.005	< 0.005	< 0.005	3.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.56	8.56	< 0.005	< 0.005	—	8.59
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.59
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	2.51	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	718	718	0.01	0.03	0.05	727
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	42.8	42.8	< 0.005	< 0.005	0.04	43.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.08	7.08	< 0.005	< 0.005	0.01	7.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2031) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.25	4.98	0.01	0.11	—	0.11	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	56.5	56.5	< 0.005	0.01	0.12	59.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.25	4.98	0.01	0.11	—	0.11	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	56.6	56.6	< 0.005	0.01	< 0.005	59.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	3.13	2.96	0.01	0.07	—	0.07	0.06	—	0.06	—	524	524	0.02	< 0.005	—	526
Architectural Coatings	0.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.61	1.61	< 0.005	0.16	0.16	—	33.6	33.6	< 0.005	< 0.005	0.03	35.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.57	0.54	< 0.005	0.01	—	0.01	0.01	—	0.01	—	86.7	86.7	< 0.005	< 0.005	—	87.0

Architectural Coatings	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	5.57	5.57	< 0.005	< 0.005	0.01	5.83
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.15	2.78	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	746	746	0.01	< 0.005	1.58	749
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.18	2.36	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	707	707	0.01	0.03	0.04	716
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.11	1.47	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	427	427	< 0.005	0.02	0.41	433
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	70.7	70.7	< 0.005	< 0.005	0.07	71.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2031) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.25	4.98	0.01	0.11	—	0.11	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	56.5	56.5	< 0.005	0.01	0.12	59.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.25	4.98	0.01	0.11	—	0.11	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	56.6	56.6	< 0.005	0.01	< 0.005	59.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	3.13	2.96	0.01	0.07	—	0.07	0.06	—	0.06	—	524	524	0.02	< 0.005	—	526
Architectural Coatings	0.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.61	1.61	< 0.005	0.16	0.16	—	33.6	33.6	< 0.005	< 0.005	0.03	35.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.57	0.54	< 0.005	0.01	—	0.01	0.01	—	0.01	—	86.7	86.7	< 0.005	< 0.005	—	87.0

Architectu Coatings	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	5.57	5.57	< 0.005	< 0.005	0.01	5.83
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.15	2.78	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	746	746	0.01	< 0.005	1.58	749
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.18	2.36	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	707	707	0.01	0.03	0.04	716
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.11	1.47	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	427	427	< 0.005	0.02	0.41	433
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	70.7	70.7	< 0.005	< 0.005	0.07	71.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	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	5/1/2030	7/2/2030	5.00	45.0	—
Grading	Grading	7/3/2030	9/3/2030	5.00	45.0	—
Building Construction	Building Construction	9/4/2030	11/26/2030	5.00	60.0	—
Paving	Paving	2/3/2031	3/28/2031	5.00	40.0	—
Architectural Coating	Architectural Coating	12/2/2030	10/31/2031	5.00	240	—

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	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37

Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	6.00	423	0.48
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Off-Highway Tractors	Diesel	Average	1.00	7.00	38.0	0.44
Building Construction	Forklifts	Electric	Average	3.00	7.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Aerial Lifts	Diesel	Average	6.00	7.00	46.0	0.31
Building Construction	Rubber Tired Loaders	Diesel	Average	1.00	7.00	150	0.36
Building Construction	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Building Construction	Skid Steer Loaders	Diesel	Average	1.00	7.00	71.0	0.37
Building Construction	Surfacing Equipment	Diesel	Average	1.00	6.00	399	0.30
Building Construction	Excavators	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Surfacing Equipment	Diesel	Average	1.00	7.00	399	0.30
Paving	Trenchers	Diesel	Average	1.00	7.00	40.0	0.50
Paving	Graders	Diesel	Average	1.00	8.00	148	0.41
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Forklifts	Electric	Average	4.00	8.00	82.0	0.20
Architectural Coating	Generator Sets	Diesel	Average	3.00	8.00	14.0	0.74
Architectural Coating	Welders	Diesel	Average	1.00	7.00	46.0	0.45

Architectural Coating	Aerial Lifts	Diesel	Average	3.00	7.00	46.0	0.31

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	6.00	423	0.48
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Off-Highway Tractors	Diesel	Average	1.00	7.00	38.0	0.44
Building Construction	Forklifts	Electric	Average	3.00	7.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Aerial Lifts	Diesel	Average	6.00	7.00	46.0	0.31
Building Construction	Rubber Tired Loaders	Diesel	Average	1.00	7.00	150	0.36
Building Construction	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Building Construction	Skid Steer Loaders	Diesel	Average	1.00	7.00	71.0	0.37
Building Construction	Surfacing Equipment	Diesel	Average	1.00	6.00	399	0.30
Building Construction	Excavators	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42

Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Surfacing Equipment	Diesel	Average	1.00	7.00	399	0.30
Paving	Trenchers	Diesel	Average	1.00	7.00	40.0	0.50
Paving	Graders	Diesel	Average	1.00	8.00	148	0.41
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Forklifts	Electric	Average	4.00	8.00	82.0	0.20
Architectural Coating	Generator Sets	Diesel	Average	3.00	8.00	14.0	0.74
Architectural Coating	Welders	Diesel	Average	1.00	7.00	46.0	0.45
Architectural Coating	Aerial Lifts	Diesel	Average	3.00	7.00	46.0	0.31

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	30.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	8.00	10.2	HHDT,MHDT
Site Preparation	Hauling	2.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	30.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	4.00	10.2	HHDT,MHDT
Grading	Hauling	8.00	20.0	HHDT
Grading	Onsite truck	5.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	80.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	6.00	10.2	HHDT,MHDT

Building Construction	Hauling	4.00	20.0	HHDT
Building Construction	Onsite truck	9.00	4.00	HHDT,MHDT
Paving	—	—	—	—
Paving	Worker	120	18.5	LDA,LDT1,LDT2
Paving	Vendor	6.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	11.0	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	60.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	5.00	4.00	HHDT,MHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	30.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	8.00	10.2	HHDT,MHDT
Site Preparation	Hauling	2.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	30.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	4.00	10.2	HHDT,MHDT
Grading	Hauling	8.00	20.0	HHDT
Grading	Onsite truck	5.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	80.0	18.5	LDA,LDT1,LDT2

Building Construction	Vendor	6.00	10.2	HHDT,MHDT
Building Construction	Hauling	4.00	20.0	HHDT
Building Construction	Onsite truck	9.00	4.00	HHDT,MHDT
Paving	—	—	—	—
Paving	Worker	120	18.5	LDA,LDT1,LDT2
Paving	Vendor	6.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	11.0	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	60.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	5.00	4.00	HHDT,MHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	57%	57%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	37,500	12,500	2,222

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	67.5	0.00	—
Grading	0.00	0.00	113	0.00	—
Paving	0.00	0.00	20.0	0.00	0.85

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

Land Use	Area Paved (acres)	% Asphalt
Parking Lot	0.85	100%
Research & Development	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2030	648	690	0.05	0.01
2031	391	690	0.05	0.01

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	2	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	2	0	N/A
Wildfire	1	2	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	2	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	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	2	1	3
Wildfire	1	2	1	3
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	2	1	3

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

6.4.1. Temperature and Extreme Heat

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
MH-23: Landscape with Climate Considerations	Improved Ecosystem Health, Water Conservation	—	1.00	—

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	69.6
AQ-PM	65.9
AQ-DPM	47.5
Drinking Water	92.5
Lead Risk Housing	—
Pesticides	0.00
Toxic Releases	70.0
Traffic	99.5
Effect Indicators	—
CleanUp Sites	94.3
Groundwater	36.9
Haz Waste Facilities/Generators	47.6
Impaired Water Bodies	77.3
Solid Waste	89.9
Sensitive Population	—
Asthma	8.92
Cardio-vascular	23.8
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—

Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	87.3
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	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	79.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
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	100.0
SLR Inundation Area	0.0

Children	99.4
Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.9
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses based on PD and site plan.
Construction: Construction Phases	Construction schedule provided by LADWP.
Construction: Off-Road Equipment	Equipment inventory provided by LADWP.
Construction: Dust From Material Movement	All earthwork will be balanced on site.
Construction: On-Road Fugitive Dust	Limit vehicle speeds on unpaved roads to 15 mph (SCAQMD Rule 403).
Construction: Trips and VMT	Vehicle and personnel inventories provided by LADWP.

LADWP Headworks Project - Operations Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LADWP Headworks Project - Operations
Operational Year	2031
Lead Agency	LADWP
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	20.2
Location	34.15285671760434, -118.3170842391024
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3974
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
Research & Development	100	1000sqft	4.85	100,000	111,500	111,500	—	—

Research & Development	25.0	1000sqft	1.37	25,000	34,500	34,500	—	—
City Park	17.5	Acre	17.5	0.00	387,830	387,830	—	—
Parking Lot	6.00	Acre	6.00	0.00	13,000	13,000	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-34*	Provide Bike Parking
Energy	E-21*	Install Cool Pavements

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.54	1.26	11.5	0.01	0.07	0.94	1.01	0.06	0.24	0.30	124	7,018	7,142	13.2	0.40	5.11	7,597
Mit.	5.54	1.26	11.5	0.01	0.07	0.94	1.01	0.06	0.24	0.30	124	7,018	7,142	13.2	0.40	5.11	7,597
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.64	1.26	6.22	0.01	0.06	0.94	1.00	0.06	0.24	0.30	124	6,957	7,081	13.2	0.41	3.24	7,535
Mit.	4.64	1.26	6.22	0.01	0.06	0.94	1.00	0.06	0.24	0.30	124	6,957	7,081	13.2	0.41	3.24	7,535

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.24	1.29	9.96	0.01	0.06	0.93	1.00	0.06	0.24	0.30	124	6,983	7,106	13.2	0.41	4.02	7,561
Mit.	5.24	1.29	9.96	0.01	0.06	0.93	1.00	0.06	0.24	0.30	124	6,983	7,106	13.2	0.41	4.02	7,561
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.96	0.24	1.82	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	20.5	1,156	1,177	2.19	0.07	0.67	1,252
Mit.	0.96	0.24	1.82	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	20.5	1,156	1,177	2.19	0.07	0.67	1,252
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	3,000
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	Yes
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	Yes
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	3,000
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	Yes
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	Yes

2.5. Operations Emissions by Sector, Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.36	0.54	5.54	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,029	1,029	0.09	0.06	1.91	1,052
Area	4.15	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	5.54	1.26	11.5	0.01	0.07	0.94	1.01	0.06	0.24	0.30	124	7,018	7,142	13.2	0.40	5.11	7,597
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.35	0.59	5.65	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	990	990	0.10	0.07	0.05	1,012
Area	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	4.64	1.26	6.22	0.01	0.06	0.94	1.00	0.06	0.24	0.30	124	6,957	7,081	13.2	0.41	3.24	7,535
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.33	0.59	5.67	0.01	0.01	0.93	0.94	0.01	0.24	0.24	—	1,001	1,001	0.09	0.07	0.83	1,023
Area	3.87	0.03	3.72	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	5.24	1.29	9.96	0.01	0.06	0.93	1.00	0.06	0.24	0.30	124	6,983	7,106	13.2	0.41	4.02	7,561

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.24	0.11	1.03	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	166	166	0.02	0.01	0.14	169
Area	0.71	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Energy	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	828	828	0.06	0.01	—	832
Water	—	—	—	—	—	—	—	—	—	—	19.5	159	179	2.01	0.05	—	244
Waste	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.44
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	0.96	0.24	1.82	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	20.5	1,156	1,177	2.19	0.07	0.67	1,252

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.36	0.54	5.54	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,029	1,029	0.09	0.06	1.91	1,052
Area	4.15	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	5.54	1.26	11.5	0.01	0.07	0.94	1.01	0.06	0.24	0.30	124	7,018	7,142	13.2	0.40	5.11	7,597
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.35	0.59	5.65	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	990	990	0.10	0.07	0.05	1,012
Area	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472

Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	4.64	1.26	6.22	0.01	0.06	0.94	1.00	0.06	0.24	0.30	124	6,957	7,081	13.2	0.41	3.24	7,535
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.33	0.59	5.67	0.01	0.01	0.93	0.94	0.01	0.24	0.24	—	1,001	1,001	0.09	0.07	0.83	1,023
Area	3.87	0.03	3.72	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	5.24	1.29	9.96	0.01	0.06	0.93	1.00	0.06	0.24	0.30	124	6,983	7,106	13.2	0.41	4.02	7,561
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.24	0.11	1.03	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	166	166	0.02	0.01	0.14	169
Area	0.71	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Energy	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	828	828	0.06	0.01	—	832
Water	—	—	—	—	—	—	—	—	—	—	19.5	159	179	2.01	0.05	—	244
Waste	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.44
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	0.96	0.24	1.82	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	20.5	1,156	1,177	2.19	0.07	0.67	1,252

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.34	0.53	5.30	0.01	0.01	0.86	0.86	0.01	0.22	0.22	—	948	948	0.09	0.06	1.74	970
City Park	0.02	0.02	0.25	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	81.2	81.2	< 0.005	< 0.005	0.17	82.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.36	0.54	5.54	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,029	1,029	0.09	0.06	1.91	1,052
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.33	0.57	5.44	0.01	0.01	0.86	0.86	0.01	0.22	0.22	—	913	913	0.09	0.06	0.05	934
City Park	0.02	0.02	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	77.5	77.5	< 0.005	< 0.005	< 0.005	78.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.35	0.59	5.65	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	990	990	0.10	0.07	0.05	1,012
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.24	0.10	0.99	< 0.005	< 0.005	0.15	0.16	< 0.005	0.04	0.04	—	153	153	0.02	0.01	0.12	156
City Park	< 0.005	< 0.005	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	13.0	13.0	< 0.005	< 0.005	0.01	13.1
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.24	0.11	1.03	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	166	166	0.02	0.01	0.14	169

4.1.2. Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.34	0.53	5.30	0.01	0.01	0.86	0.86	0.01	0.22	0.22	—	948	948	0.09	0.06	1.74	970
City Park	0.02	0.02	0.25	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	81.2	81.2	< 0.005	< 0.005	0.17	82.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.36	0.54	5.54	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,029	1,029	0.09	0.06	1.91	1,052
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.33	0.57	5.44	0.01	0.01	0.86	0.86	0.01	0.22	0.22	—	913	913	0.09	0.06	0.05	934
City Park	0.02	0.02	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	77.5	77.5	< 0.005	< 0.005	< 0.005	78.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.35	0.59	5.65	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	990	990	0.10	0.07	0.05	1,012
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.24	0.10	0.99	< 0.005	< 0.005	0.15	0.16	< 0.005	0.04	0.04	—	153	153	0.02	0.01	0.12	156
City Park	< 0.005	< 0.005	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	13.0	13.0	< 0.005	< 0.005	0.01	13.1
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.24	0.11	1.03	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	166	166	0.02	0.01	0.14	169

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,766	3,766	0.27	0.04	—	3,784
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	433	433	0.03	< 0.005	—	435
Total	—	—	—	—	—	—	—	—	—	—	—	4,199	4,199	0.30	0.04	—	4,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,766	3,766	0.27	0.04	—	3,784
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	433	433	0.03	< 0.005	—	435
Total	—	—	—	—	—	—	—	—	—	—	—	4,199	4,199	0.30	0.04	—	4,219
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	624	624	0.04	0.01	—	626
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	71.7	71.7	0.01	< 0.005	—	72.0
Total	—	—	—	—	—	—	—	—	—	—	—	695	695	0.05	0.01	—	699

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,766	3,766	0.27	0.04	—	3,784
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	433	433	0.03	< 0.005	—	435
Total	—	—	—	—	—	—	—	—	—	—	—	4,199	4,199	0.30	0.04	—	4,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,766	3,766	0.27	0.04	—	3,784
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	433	433	0.03	< 0.005	—	435
Total	—	—	—	—	—	—	—	—	—	—	—	4,199	4,199	0.30	0.04	—	4,219
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	624	624	0.04	0.01	—	626
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	71.7	71.7	0.01	< 0.005	—	72.0
Total	—	—	—	—	—	—	—	—	—	—	—	695	695	0.05	0.01	—	699

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	134
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	134

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	134
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	134

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.89	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Total	4.15	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscap Equipment	0.11	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Total	0.71	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54

4.3.2. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.89	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Total	4.15	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.11	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Total	0.71	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	118	837	955	12.1	0.30	—	1,346
City Park	—	—	—	—	—	—	—	—	—	—	0.00	121	121	0.01	< 0.005	—	122
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	4.07	4.07	< 0.005	< 0.005	—	4.09
Total	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	118	837	955	12.1	0.30	—	1,346

City Park	—	—	—	—	—	—	—	—	—	—	0.00	121	121	0.01	< 0.005	—	122
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	4.07	4.07	< 0.005	< 0.005	—	4.09
Total	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	19.5	139	158	2.01	0.05	—	223
City Park	—	—	—	—	—	—	—	—	—	—	0.00	20.1	20.1	< 0.005	< 0.005	—	20.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.67	0.67	< 0.005	< 0.005	—	0.68
Total	—	—	—	—	—	—	—	—	—	—	19.5	159	179	2.01	0.05	—	244

4.4.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	118	837	955	12.1	0.30	—	1,346
City Park	—	—	—	—	—	—	—	—	—	—	0.00	121	121	0.01	< 0.005	—	122
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	4.07	4.07	< 0.005	< 0.005	—	4.09
Total	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	118	837	955	12.1	0.30	—	1,346

City Park	—	—	—	—	—	—	—	—	—	—	0.00	121	121	0.01	< 0.005	—	122
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	4.07	4.07	< 0.005	< 0.005	—	4.09
Total	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	19.5	139	158	2.01	0.05	—	223
City Park	—	—	—	—	—	—	—	—	—	—	0.00	20.1	20.1	< 0.005	< 0.005	—	20.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.67	0.67	< 0.005	< 0.005	—	0.68
Total	—	—	—	—	—	—	—	—	—	—	19.5	159	179	2.01	0.05	—	244

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	5.12	0.00	5.12	0.51	0.00	—	17.9
City Park	—	—	—	—	—	—	—	—	—	—	0.81	0.00	0.81	0.08	0.00	—	2.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	5.12	0.00	5.12	0.51	0.00	—	17.9
City Park	—	—	—	—	—	—	—	—	—	—	0.81	0.00	0.81	0.08	0.00	—	2.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	0.85	0.00	0.85	0.08	0.00	—	2.97
City Park	—	—	—	—	—	—	—	—	—	—	0.13	0.00	0.13	0.01	0.00	—	0.47
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.44

4.5.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	5.12	0.00	5.12	0.51	0.00	—	17.9
City Park	—	—	—	—	—	—	—	—	—	—	0.81	0.00	0.81	0.08	0.00	—	2.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	5.12	0.00	5.12	0.51	0.00	—	17.9
City Park	—	—	—	—	—	—	—	—	—	—	0.81	0.00	0.81	0.08	0.00	—	2.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	0.85	0.00	0.85	0.08	0.00	—	2.97
City Park	—	—	—	—	—	—	—	—	—	—	0.13	0.00	0.13	0.01	0.00	—	0.47
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.44

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53

4.6.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	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

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	580	580	580	211,700	1,051	1,051	1,051	383,615

Research & Development	16.0	16.0	16.0	5,840	159	159	159	58,195
City Park	12.1	12.1	12.1	4,407	120	120	120	43,919
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	580	580	580	211,700	1,051	1,051	1,051	383,615
Research & Development	16.0	16.0	16.0	5,840	159	159	159	58,195
City Park	12.1	12.1	12.1	4,407	120	120	120	43,919
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	187,500	62,500	15,682

5.10.3. Landscape Equipment

Season	Unit	Value

Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	1,592,875	690	0.0489	0.0069	2,009,186
Research & Development	398,219	690	0.0489	0.0069	502,296
City Park	0.00	690	0.0489	0.0069	0.00
Parking Lot	228,951	690	0.0489	0.0069	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	1,592,875	690	0.0489	0.0069	2,009,186
Research & Development	398,219	690	0.0489	0.0069	502,296
City Park	0.00	690	0.0489	0.0069	0.00
Parking Lot	228,951	690	0.0489	0.0069	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	49,169,395	3,474,980
Research & Development	12,292,349	1,075,218
City Park	0.00	12,087,009
Parking Lot	0.00	405,155

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	49,169,395	3,474,980
Research & Development	12,292,349	1,075,218
City Park	0.00	12,087,009
Parking Lot	0.00	405,155

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	7.60	—
Research & Development	1.90	—
City Park	1.50	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	7.60	—
Research & Development	1.90	—
City Park	1.50	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	2	3	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	2	2	2
Wildfire	2	2	2	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	5	2	3	3

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	1	1	3	1
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	2	2	2
Wildfire	2	2	2	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	2	3	3

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

6.4.1. Temperature and Extreme Heat

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
EH-9: Expand Urban Tree Canopy	Energy and Fuel Savings, Improved Air Quality, Improved Public Health, Social Equity	1.00	1.00	—
MH-23: Landscape with Climate Considerations	Improved Ecosystem Health, Water Conservation	—	1.00	—

MH-39: Implement Pervious and Climate-Smart Surfaces	Energy and Fuel Savings, Improved Air Quality, Improved Ecosystem Health, Improved Public Health, Water Conservation	—	1.00	—

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	69.6
AQ-PM	65.9
AQ-DPM	47.5
Drinking Water	92.5
Lead Risk Housing	—
Pesticides	0.00
Toxic Releases	70.0
Traffic	99.5
Effect Indicators	—
CleanUp Sites	94.3
Groundwater	36.9
Haz Waste Facilities/Generators	47.6
Impaired Water Bodies	77.3
Solid Waste	89.9
Sensitive Population	—
Asthma	8.92
Cardio-vascular	23.8

Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—

Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	87.3
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	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	79.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0

Pedestrian Injuries	0.0
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	100.0
SLR Inundation Area	0.0
Children	99.4
Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.9
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	—

Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

Measure Title	Co-Benefits Achieved
PH-2: Increase Urban Tree Canopy and Green Spaces	Energy and Fuel Savings, Enhanced Energy Security, Improved Air Quality, Improved Ecosystem Health, Improved Public Health, Social Equity
IC-4: Enhanced Open and Green Spaces	Improved Ecosystem Health, Improved Public Health, Social Equity, Water Conservation

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses based on updated PD & site plan.
Operations: Vehicle Data	Trips from traffic memo: 608 total daily, 580 WQL, 159 DPR, 120 Park.
Operations: Fleet Mix	No medium or heavy-duty trucks for Park patrons.

APPENDIX E

Greenhouse Gas Emissions Impact Study

HEADWORKS SITE DEVELOPMENT PROJECT

Greenhouse Gas Emissions Impact Study

Prepared for:

Michael Baker International

Prepared by:

Terry A. Hayes Associates Inc.

January 2024

environmental planners

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1.0 SUMMARY OF FINDINGS

Terry A. Hayes Associates Inc. (TAHA) completed a Greenhouse Gas (GHG) Emissions Impact Study (Study) for the Headworks Site Development Project (proposed project) located in the City of Los Angeles (City). The Study analyzes environmental impacts related to GHG emissions that would occur during construction and future operation of the proposed project in accordance with the California Environmental Quality Act (CEQA) Statutes and Guidelines. The determination of potentially significant impacts is framed through addressing the Environmental Checklist criteria outlined in Appendix G of the CEQA Guidelines. **Table 1-1** presents the Appendix G criteria for GHG Emissions and discloses the conclusions of the Study for the proposed project. Potential impacts related to GHG emissions were determined to be less-than-significant and no mitigation measures are required.

TABLE 1-1: SUMMARY OF IMPACT STATEMENTS

Impact Statement	Proposed Project Level of Significance	Applicable Mitigation Measures
Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less-Than-Significant Impact	None
Would the proposed project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less-Than-Significant Impact	None

SOURCE: TAHA, 2024.

2.0 INTRODUCTION

2.1 STUDY PURPOSE

This Study compares the proposed project characteristics with applicable regulations, plans, and policies to reduce GHG emissions to determine whether the proposed project is consistent with and/or would conflict with the provisions of these plans. To assist in analyzing the proposed project's potential to conflict with applicable regulations, plans and policies, this section also estimates GHG emissions generated by construction and operational activities.

2.2 PROJECT DESCRIPTION

The proposed water quality lab (WQL) would include approximately 100,000 gross square feet of floor space; surface parking for 12 visitor vehicles, 102 staff vehicles, and 20 Los Angeles Department of Water and Power (LADWP) fleet vehicles; a mobile laboratory trailer; landscaping; and other site improvements. It would be located to the east of the Direct Potable Reuse (DPR) Demonstration Facility at the Headworks Spreading Grounds (HWSG) property. The facility would also be designed to meet Mayor Garcetti's Resilience by Design Directive by obtaining Leadership in Energy and Environmental Design (LEED) gold certification, with the objective to achieve LEED Platinum certification and Envision Sustainable Infrastructure certification. The facility would also include a green roof, which would be covered with vegetation to reduce heat and capture stormwater. The building would achieve energy efficiency by implementing strategies including building orientation, high-performance building envelope, and effective daylighting complemented by high performance lighting and high efficiency heating, ventilation, and air conditioning (HVAC) systems. The proposed project would include EV charging stations in compliance with Los Angeles Department of Building and Safety (LADBS) Electric Vehicle Charging Stations (EVCS) requirements. It would incorporate recycled material in all aspects of the building construction to promote a sustainable supply chain. All lighting and lighting controls for the facility would comply with the latest version of the Building Energy Efficiency Standard (Title 24) and the California Green Building Standard Code.

The DPR Demonstration Facility would be an advanced water purification facility (AWPF). The AWPF and support facilities and areas would be approximately 20,000 square feet, with an additional 20,000 square feet for a surrounding vehicle access road. A visitor center and a parking lot would also be provided. The visitor center would be approximately 5,000 square feet, and a parking lot would require approximately 16,500 square feet to accommodate staff and visitors. The DPR Demonstration Facility and visitor center would be at the at the west end of the HWSG property.

The centerpiece of Headworks Park would be the West Reservoir Gardens, constructed on top of the approximately eight-acre West Reservoir, which will have been covered with several feet of soil to enable planting. Surrounding the reservoir garden and extending into other portions of the HWSG property would be a series of pedestrian, bicycle, and equestrian pathways, including the Headworks segment of the Los Angeles River Trail. The park would be developed in the eastern portion of the property, atop the West Reservoir, with other park features, including parking, a pavilion building, trails and site landscaping, located in adjacent areas.

The primary vehicular access to the Headworks site for all the proposed project components would be from Forest Lawn Drive at Mount Sinai Drive. Secondary access for employee, service, and maintenance vehicles would be provided from Forest Lawn Drive at the west end of the Headworks site. Public access to the Headworks site, would be limited to dawn to dusk.

Figure 2-1 shows the regional location of the proposed project. **Figure 2-2** shows the site plan.

Source: AECOM, 2021.

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Headworks Site Development Project
Greenhouse Gas Emissions Impact Study

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FIGURE 2-1
REGIONAL LOCATION

Legend

1. Headworks Park (Proposed)
2. Headworks Park - Pavilion Gateway (Proposed)
3. Headworks Park - Parking Lot (Proposed)
4. LA River Trail Segment (Proposed)
5. Access Road (Proposed)
6. Equestrian Tunnel (Existing)
7. Connection to Griffith Park (Existing)
8. Water Quality Lab (Proposed)
9. DPR Demonstration Facility (Proposed)
10. DPR Demonstration Facility Visitor Center (Proposed)
11. East Reservoir (Existing)
12. Flow Control Station (In Construction)

Source: LADWP, 2024.

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Headworks Site Development Project
Greenhouse Gas Emissions Impact Study

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FIGURE 2-2

PROJECT LOCATION

2.3 CONSTRUCTION SCHEDULE

Construction of the proposed project is anticipated to begin in the fourth quarter of 2024 with the Headworks Restoration Park, which would take approximately 3.3 years to complete, concluding in the first quarter of 2028. The construction of the proposed WQL would begin in the second quarter of 2027, overlapping the last phases of the park construction by approximately 9 months. The proposed WQL construction would take approximately 2.5 years to complete, concluding in the first quarter of 2030. Construction of the proposed DPR Demonstration Facility would follow in succession, starting in the second quarter of 2030 and ending in the fourth quarter of 2031, a period of approximately 1.5 years. Accounting for overlaps in the construction periods for the project components, the total construction time for the proposed project would be approximately 7 years, from late 2024 to late 2031. Construction activities would typically occur Monday through Friday during the daytime hours, beginning no earlier than 7:00 a.m. and generally ending by 5:00 p.m. Saturday construction may also be required at times.

3.0 GREENHOUSE GAS EMISSIONS

This section describes the characteristics of GHGs, and the regulatory framework of applicable rules, regulations, plans, and guidance related to GHG emissions; discusses the existing GHG emissions landscape and quantifies and evaluates GHG emissions that would be generated by construction and operations of the proposed project.

3.1 ENVIRONMENTAL SETTING

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and severe weather events. Global warming, a related concept, is the observed increase in average temperature of Earth's surface and atmosphere. One identified cause of global warming is an increase of GHGs in the atmosphere. GHGs are those compounds in Earth's atmosphere that play a critical role in determining Earth's surface temperature.

Earth's natural warming process is known as the "greenhouse effect." It is called the greenhouse effect because Earth and the atmosphere surrounding it are similar to a greenhouse with glass panes in that the glass allows solar radiation (sunlight) into Earth's atmosphere but prevents radiative heat from escaping, thus warming Earth's atmosphere. Some levels of GHGs keep the average surface temperature of Earth close to a hospitable 60 degrees Fahrenheit. However, it is believed that excessive concentrations of anthropogenic GHGs in the atmosphere can result in increased global mean temperatures, with associated adverse climatic and ecological consequences.[1]

Scientists studying the particularly rapid rise in global temperatures have determined that human activity has resulted in increased emissions of GHGs, primarily from the burning of fossil fuels (from motor vehicle travel, electricity generation, consumption of natural gas, industrial activity, manufacturing, etc.), deforestation, agricultural activity, and the decomposition of solid waste. Scientists refer to the global warming context of the past century as the "enhanced greenhouse effect" to distinguish it from the natural greenhouse effect.[2]

Global GHG emissions due to human activities have grown since pre-industrial times. As reported by the United States Environmental Protection Agency (USEPA), global carbon emissions from fossil fuels increased by over 16 times between 1900 and 2008 and by about 1.5 times between 1990 and 2008. In addition, in the Global Carbon Budget 2014 report, published in September 2014, atmospheric carbon dioxide (CO_2) concentrations in 2013 were found to be 43 percent above the concentration at the start of the Industrial Revolution, and the present concentration is the highest during at least the last 800,000 years.[3] Global increases in CO_2 concentrations are due primarily to fossil fuel use, with land use change providing another significant but smaller contribution. With regard to emissions of non-CO_2 GHG, these have also increased significantly since 1990.[4] In particular, studies have concluded that it is highly likely that the observed increase in methane (CH_4) concentration is predominantly due to agriculture and fossil fuel use.[5]

[1]USEPA, *Climate Change: Basic Information*, https://19january2017snapshot.epa.gov/climatechange/climate-change-basic-information_.html, accessed July 12, 2022.
[2]Pew Center on Global Climate Change, *Climate Change 101: Understanding and Responding to Global Climate Change*.
[3]C. Le Quéré, et al., *Global Carbon Budget 2014*, (Earth System Science Data, 2015, doi:10.5194/essd–7–47–2015).
[4]USEPA, *Global Greenhouse Gas Emissions Data*, www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data, accessed July 12, 2022.
[5]USEPA, *Atmospheric Concentrations of Greenhouse Gas*, updated June 2015.

In August 2007, international climate talks held under the auspices of the United Nations Framework Convention on Climate Change led to the official recognition by the participating nations that global emissions of GHG must be reduced. According to the "Ad Hoc Working Group on Further Commitments of Annex I Parties under the Kyoto Protocol," avoiding the most catastrophic events forecast by the United Nations Intergovernmental Panel on Climate Change (IPCC) would entail emissions reductions by industrialized countries in the range of 25 to 40 percent below 1990 levels. Because of the Kyoto Protocol's Clean Development Mechanism, which gives industrialized countries credit for financing emission-reducing projects in developing countries, such an emissions goal in industrialized countries could ultimately spur efforts to cut emissions in developing countries as well.[6]

With regard to the adverse effects of global warming, as reported by Southern California Association of Governments (SCAG):

> *Global warming poses a serious threat to the economic well-being, public health and natural environment in southern California and beyond. The potential adverse impacts of global warming include, among others, a reduction in the quantity and quality of water supply, a rise in sea level, damage to marine and other ecosystems, and an increase in the incidences of infectious diseases. Over the past few decades, energy intensity of the national and state economy has been declining due to the shift to a more service-oriented economy. California ranked fifth lowest among the states in CO_2 emissions from fossil fuel consumption per unit of Gross State Product. However, in terms of total CO_2 emissions, California is second only to Texas in the nation and is the 12th largest source of climate change emissions in the world, exceeding most nations. The SCAG region, with close to half of the state's population and economic activities, is also a major contributor to the global warming problem.*[7]

3.1.1 GHG Fundamentals

GHGs are those compounds in the Earth's atmosphere which play a critical role in determining temperature near the Earth's surface. GHGs include CO_2, CH_4, nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).[8] More specifically, these gases allow high-frequency shortwave solar radiation to enter the Earth's atmosphere, but retain some of the low frequency infrared energy, which is radiated back from the Earth towards space, resulting in a warming of the atmosphere. Compounds that are regulated as GHGs are discussed below in **Table 3-1**.[9,10]

6United Nations Framework Convention on Climate Change, *Press Release—Vienna UN Conference Shows Consensus on Key Building Blocks for Effective International Response to Climate Change*, August 31, 2007.

7SCAG, *The State of the Region—Measuring Regional Progress*, December 2006, p. 121.

8As defined by California Assembly Bill (AB) 32 and Senate Bill (SB) 104.

9Intergovernmental Panel on Climate Change, *Second Assessment Report, Working Group I: The Science of Climate Change*, 1995, https://www.ipcc.ch/pdf/climate-changes-1995/ipcc-2nd-assessment/2nd-assessment-en.pdf, accessed July 12, 2022.

10Intergovernmental Panel on Climate Change, *Fourth Assessment Report, Working Group I Report: The Physical Science Basis*, *Table 2.14,* 2007, https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html, accessed July 12, 2022.

TABLE 3-1: DESCRIPTION OF IDENTIFIED GHGS[/a/]	
Greenhouse Gas	**General Description**
Carbon Dioxide (CO_2)	An odorless, colorless GHG, which has both natural and anthropocentric sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human-caused) sources of CO_2 are burning coal, oil, natural gas, and wood.
Methane (CH_4)	A flammable gas and the main component of natural gas. When one molecule of CH_4 is burned in the presence of oxygen, one molecule of CO_2 and two molecules of water are released. A natural source of CH_4 is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain CH_4, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle.
Nitrous Oxide (N_2O)	A colorless GHG. High concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used in rocket engines, race cars, and as an aerosol spray propellant.
Hydrofluorocarbons (HFCs)	Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are non-toxic, non-flammable, insoluble, and chemically unreactive in the troposphere (the level of air at Earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. Because they destroy stratospheric ozone, the production of CFCs was stopped as required by the Montreal Protocol in 1987. HFCs are synthetic man-made chemicals that are used as a substitute for CFCs as refrigerants. HFCs deplete stratospheric ozone, but to a much lesser extent than CFCs.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. PFCs have exceptionally long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane and hexafluoroethane. The two main sources of PFCs are primary aluminum production and semi-conductor manufacturing.
Sulfur Hexafluoride (SF_6)	An inorganic, odorless, colorless, non-toxic, and non-flammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.
Nitrogen Trifluoride (NF_3)	An inorganic, non-toxic, odorless, non-flammable gas. NF_3 is used in the manufacture of semi-conductors, as an oxidizer of high energy fuels, for the preparation of tetrafluoro-hydrazine, as an etchant gas in the electronic industry, and as a fluorine source in high power chemical lasers.

/a/ GHGs identified in this table are identified in the Kyoto Protocol and other synthetic gases recently added to the IPCC's Fifth Assessment Report.
SOURCES: Association of Environmental Professionals (AEP), *Alternative Approaches to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, Final*, June 29, 2007; USEPA, *Acute Exposure Guideline Levels (AEGLs) for Nitrogen Trifluoride*; January 2009.

Not all GHGs possess the same ability to induce climate change. CO_2 is the most abundant GHG in Earth's atmosphere. Other GHGs are less abundant but have higher global warming potential (GWP) than CO_2. Thus, emissions of other GHGs are commonly quantified in the units of equivalent mass of carbon dioxide (CO_2e). GWP is based on several factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO_2, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years otherwise referred to as atmospheric lifetime) relative to that of CO_2.

The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time period.[11] These GWP ratios are available from the IPCC. Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report (SAR). The IPCC updated the GWP values based on the latest science in its Fourth Assessment Report (AR4). The GWPs in the IPCC AR4 are used by the California Air Resources Board (CARB) for reporting statewide GHG emissions inventories, consistent with international reporting standards. By applying the GWP ratios, project-related CO_2e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline.

The IPCC has issued an updated Fifth Assessment Report (AR5), which has revised down the majority of the GWP for key regulated pollutants. As CARB still uses AR4 values and the modeling software California Emissions Estimator Model (CalEEMod) is built on these assumptions, AR4 GWP values are used for the proposed project. The GWP from AR4 and AR5 and atmospheric lifetimes for key regulated GHGs are provided in **Table 3-2**.

TABLE 3-2: ATMOSPHERIC LIFETIMES AND GLOBAL WARMING POTENTIALS

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50–200	1
Methane (CH_4)	12 (+/-3)	25
Nitrous Oxide (N_2O)	114	298
HFC-23: Fluoroform (CHF_3)	270	14,800
HFC-134a: 1,1,1,2-Tetrafluoroethane (CH_2FCF_3)	14	1,430
HFC-152a: 1,1-Difluoroethane ($C_2H_4F_2$)	1.4	124
PFC-14: Tetrafluoromethane (CF_4)	50,000	7,390
PFC-116: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800
Nitrogen Trifluoride (NF_3)	740	17,200

SOURCE: IPCC, Climate Change 2007: *Working Group I: The Physical Science Basis, Direct Global Warming Potentials*. www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html, accessed January 2, 2024.

3.1.2 Projected Impacts of Global Warming in California

In 2009, California adopted a statewide Climate Adaptation Strategy (CAS) that summarizes climate change impacts and recommends adaptation strategies across seven sectors: Public Health, Biodiversity and Habitat, Oceans and Coastal Resources, Water, Agriculture, Forestry, and Transportation and Energy. The California Natural Resources Agency will be updating the CAS and

[11] GWPs and associated CO_2e values were developed by the Intergovernmental Panel on Climate Change (IPCC) and published in its SAR in 1996. Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's SAR. The IPCC updated the GWP values based on the latest science in its Fourth Assessment Report (AR4). The CARB has begun reporting GHG emission inventories for California using the GWP values from the IPCC AR4.

is responsible for preparing reports to the Governor on the status of the CAS. The Natural Resources Agency has produced climate change assessments which detail impacts of global warming in California.[12] These include:

- Sea level rise, coastal flooding and erosion of California's coastlines would increase, as well as sea water intrusion.
- The Sierra snowpack would decline between 70 and 90 percent, threatening California's water supply.
- Higher risk of forest fires resulting from increasing temperatures and making forests and brush drier. Climate change will affect tree survival and growth.
- Attainment of air quality standards would be impeded by increasing emissions, accelerating chemical processes, and raising inversion temperatures during stagnation episodes resulting in public health impacts.
- Habitat destruction and loss of ecosystems due to climate change affecting plant and wildlife habitats.
- Global warming can cause drought, warmer temperatures and saltwater contamination resulting in impacts to California's agricultural industry.

With regard to public health, as reported by the Center for Health and the Global Environment at the Harvard Medical School, the following are examples of how climate change can affect cardio-respiratory disease: (1) pollen is increased by higher levels of atmospheric CO_2; (2) heat waves can result in temperature inversions, leading to trapped masses or unhealthy air contaminants by smog, particulates, and other pollutants; and (3) the incidence of forest fires is increased by drought secondary to climate change and to the lack of spring runoff from reduced winter snows. These fires can create smoke and haze, which can settle over urban populations causing acute and exacerbating chronic respiratory illness.[13]

3.2 REGULATORY FRAMEWORK

There are several plans, regulations, and programs that include policies, requirements, and guidelines regarding GHG Emissions at the federal, State, regional, and local levels. As described below, these plans, guidelines, and laws include the following:

- Corporate Average Fuel Economy (CAFE) Standards
- Energy Independence and Security Act
- California Air Resources Board
- California Greenhouse Gas Reduction Targets
- California Global Warming Solutions Act (AB 32)
- Climate Change Scoping Plan
- Cap-and-Trade Program
- Emissions Performance Standards
- Renewables Portfolio Standard Program
- Clean Energy and Pollution Reduction Act
- Pavley Standards
- California Low Carbon Fuel Standard
- Advanced Clean Cars Regulations

[12] State of California, Department of Justice, Office of the Attorney General, *Climate Change Impacts in California*, https://oag.ca.gov/environment/impact, accessed July 12, 2022.

[13] Paul R. Epstein, et al., *Urban Indicators of Climate Change – Report from the Center for Health and the Global Environment*, (Harvard Medical School and the Boston Public Health Commission, August 2003), unpaginated.

- Sustainable Communities and Climate Protection Act (SB 375)
- SB 743
- Executive Order N-79-20
- California Appliance Efficiency Regulations
- Title 24, Building Standards Code and CALGreen Code
- CEQA Guidelines
- South Coast Air Quality Management District
- SCAG Regional Transportation Plan/Sustainable Communities Strategy
- Green New Deal
- City of Los Angeles Green Building Code
- City of Los Angeles Solid Waste Programs and Ordinances
- City of Los Angeles General Plan
- Traffic Study Policies and Procedures

3.2.1 Federal

3.2.1.1 CAFE Standards

In response to *the Massachusetts v. Environmental Protection Agency* ruling, President George W. Bush issued Executive Order 13432 in 2007, directing the USEPA, the United States Department of Transportation (USDOT), and the United States Department of Energy (USDOE) to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. The National Highway Traffic Safety Administration (NHTSA) subsequently issued multiple final rules regulating fuel efficiency for and GHG emissions from cars and light-duty trucks for model year 2011 and later for model years 2012–2016. On May 19, 2009, the President of the United States announced a national policy for fuel efficiency and emissions standards in the auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016.[14] These standards set a combined fleet wide average of 36.9 to 37 for the model years affected.[15]

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011 the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the USEPA, this regulatory program would reduce GHG emissions and fuel consumption for the affected vehicles by six to 23 percent over the 2010 baselines.[16] Building on the first phase of standards, in August 2016, the EPA and NHTSA finalized Phase 2 standards for medium and heavy-duty vehicles through model year 2027 that will improve fuel efficiency and cut carbon pollution. The Phase 2 standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons.[17]

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[14]USEPA, *Final Rule for Model Year 2012 – 2016 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards*, 2010, https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-model-year-2012-2016-light-duty-vehicle, accessed July 12, 2022.

[15]National Highway Traffic Safety Administration (NHTSA*), Corporate Average Fuel Economy standards*.

[16]The emission reductions attributable to the regulations for medium- and heavy-duty trucks were not included in the Project's emissions inventory due to the difficulty in quantifying the reductions. Excluding these reductions results in a more conservative (i.e., higher) estimate of emissions for the Project.

[17]USEPA, *EPA and NHTSA Adopt Standards to Reduce GHG and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles for Model Year 2018 and Beyond,* August 2016.

3.2.1.2 Energy Independence and Security Act (EISA)

The EISA of 2007 facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and National Highway Traffic Safety Administration (NHTSA) actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."[18]

3.2.2 State

3.2.2.1 California Air Resources Board (CARB)

CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, CARB conducts research, sets the California Air Ambient Standard, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of the State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts. The SIP is required for the State to take over implementation of the Clean Air Act. CARB also has primary responsibility for adopting regulations to meet the State's goal of reducing GHG emissions to 1990 levels by 2020. Subsequent State goals include reducing GHG emissions to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.

3.2.2.2 California Greenhouse Gas Reduction Targets

Executive Order S-3-05. Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05,[19] the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and

[18]A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

[19]Center for Climate Strategies, *Executive Order S-3-05*, http://www.climatestrategies.us/library/library/download/294, accessed July 12, 2022.

- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

In accordance with Executive Order S-3-05, the Secretary of California Environmental Protection Agency (CalEPA) is required to coordinate efforts of various agencies, which comprise the California Climate Action Team (CAT), in order to collectively and efficiently reduce GHGs. The CAT provides periodic reports to the Governor and Legislature on the State of GHG reductions in the State as well as strategies for mitigating and adapting to climate change.

The CAT stated that smart land use is an umbrella term for strategies that integrate transportation and land-use decisions. Such strategies generally encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors. These strategies develop more efficient land-use patterns within each jurisdiction or region to match population increases, workforce, and socioeconomic needs for the full spectrum of the population.

Executive Order B-30-15. On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all State agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

Executive Order B-55-18. Executive Order B-55-18, issued by Governor Brown in September 2018, establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter. Based on this executive order, the CARB would work with relevant State agencies to develop a framework for implementation and accounting that tracks progress towards this goal as well as ensuring future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

3.2.2.3 California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code (HSC), Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines regulated GHGs as CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries, with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing State actions that would achieve GHG emissions reductions.

To achieve these goals, which are consistent with the California CAT GHG targets for 2010 and 2020, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources consistent with the CAT strategies, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. In order to achieve the reduction targets, AB 32 requires

CARB to adopt rules and regulations in an open public process that achieve the maximum technologically feasible and cost-effective GHG reductions.[20]

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amend HSC Division 25.5, establish a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and include provisions to ensure that the benefits of State climate policies reach disadvantaged communities. The new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

Climate Change Scoping Plan. AB 32 requires CARB to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (HSC Section 38561 (h)). The *2008 Climate Change Scoping Plan* proposes a "comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health."[21] The 2008 Climate Change Scoping Plan has a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms, such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

The *2008 Climate Change Scoping Plan* calls for a "coordinated set of solutions" to address all major categories of GHG emissions. Transportation emissions were addressed through a combination of higher standards for vehicle fuel economy, implementation of the Low Carbon Fuel Standard (LCFS), and greater consideration to reducing trip length and generation through land use planning and transit-oriented development. Buildings, land use, and industrial operations were encouraged and, sometimes, required to use energy more efficiently. Utility energy providers were required to include more renewable energy sources through implementation of the Renewables Portfolio Standard (RPS).[22] Additionally, the *2008 Climate Change Scoping Plan* emphasizes opportunities for households and businesses to save energy and money through increasing energy efficiency. It indicates that substantial savings of electricity and natural gas will be accomplished through "improving energy efficiency by 25 percent." The *2008 Climate Change Scoping Plan* identifies a number of specific issues relevant to the proposed project, including:

- The potential of using the green building framework as a mechanism, which could enable GHG emissions reductions in other sectors (i.e., electricity, natural gas), noting that:

  > *A Green Building strategy will produce greenhouse gas savings through buildings that exceed minimum energy efficiency standards, decrease consumption of potable water, reduce solid waste during construction and operation, and incorporate sustainable materials. Combined, these measures can also contribute to healthy indoor air quality, protect human health, and minimize impacts to the environment.*

- The importance of supporting the Department of Water Resources' work to implement the Governor's objective to reduce per capita water use by 20 percent by 2020. Specific measures to achieve this goal include water use efficiency, water recycling, and reuse of

[20]CARB's list of discrete early action measures that could be adopted and implemented before January 1, 2010, was approved on June 21, 2007. The three adopted discrete early action measures are: (1) a low-carbon fuel standard, which reduces carbon intensity in fuels statewide; (2) reduction of refrigerant losses from motor vehicle air conditioning system maintenance; and (3) increased methane capture from landfills, which includes requiring the use of state-of-the-art capture technologies.

[21]CARB, *Climate Change Scoping Plan*, December 2008.

[22]For a discussion of Renewables Portfolio Standard, refer to subsection 3.2.2(D)(i) Renewables Portfolio Standard.

urban runoff. The Climate Change Scoping Plan notes that water use requires significant amounts of energy, including approximately one-fifth of statewide electricity.

- Encouraging local governments to set quantifiable emission reduction targets for their jurisdictions and use their influence and authority to encourage reductions in emissions caused by energy use, waste and recycling, water and wastewater systems, transportation, and community design.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions reduction target for 2020. The 2020 emissions reduction target was originally set at 427 MMT CO_2e using the GWP values from the IPCC SAR. Forecasting the amount of emissions that would occur in 2020 if no actions are taken was necessary to assess the scope of the reductions California has to make to return to the 1990 emissions level by 2020 as required by AB 32. CARB originally defined the "business-as-usual" (BAU) scenario as emissions in the absence of any GHG emission reduction measures discussed in the *2008 Climate Change Scoping Plan*, as approximately 596 MMTCO_2e (using GWP values from the IPCC SAR). For example, in further explaining CARB's BAU methodology, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards. Therefore, under these original projections, the State would have had to reduce its 2020 BAU emissions by 28.4 percent to meet the 1990 target of 427 MMTCO_2e.

In the *2008 Climate Change Scoping Plan*, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5 percent from the otherwise projected 2020 emissions level (i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations).[23] CARB originally used an average of the State's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 MMTCO_2e (using GWP values from the IPCC SAR). Therefore, under the original projections, the State would have had to reduce its 2020 BAU emissions by 28.4 percent in order to meet the 1990 target of 427 MMTCO_2e.

2014 Update to the Climate Change Scoping Plan. The First Update to the Scoping Plan was approved by CARB in May 2014 and built upon the initial Scoping Plan with new strategies and recommendations.[24] In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined the 1990 GHG emissions inventory and 2020 GHG emissions limit to be 431 MMTCO_2e. CARB also updated the State's 2020 BAU emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that had recently been adopted for motor vehicles and renewable energy. CARB's projected statewide 2020 emissions estimate using the GWP values from the IPCC AR4 is 509.4 MMTCO_2e. Therefore, under the first update to the Scoping Plan, the emission reductions necessary to achieve the 2020 emissions target of 431 MMTCO_2e would have been 78.4 MMTCO_2e, or a reduction of GHG emissions by approximately 15.4 percent, (down from 28.4 percent).

The stated purpose of the First Update was to "highlight… California's success to date in reducing its GHG emissions and lay… the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050."[25] The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels squarely in line

[23]CARB, *Climate Change Scoping Plan: A Framework for Change*, p. 12, December 2008.

[24]CARB, *First Update to the Climate Change Scoping Plan: Building on the Framework Pursuant to AB 32 The California Global Warming Solutions Act of 2006*, May 2014, accessed July 12, 2022.

[25]*Ibid*, p. 4.

with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the State realizes the expected benefits of existing policy goals.[26]

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the State's economy to evaluate and describe the larger transformative actions that will be needed to meet the State's more expansive emission reduction needs by 2050."[27] Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of the 2050 reduction target.

Based on CARB's research efforts, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050."[28] Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

The First Update discusses new residential and commercial building energy efficiency improvements, specifically identifying progress towards zero net energy buildings as an element of meeting mid-term and long-term GHG reduction goals. The First Update expresses CARB's commitment to working with the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) to facilitate further achievements in building energy efficiency.

2017 Update to the Climate Change Scoping Plan. In response to the passage of SB 32 and the identification of the 2030 GHG reduction target, CARB adopted the *2017 Climate Change Scoping Plan* at a public meeting held in December 2017.[29] The 2017 Update builds upon the framework established by the *2008 Climate Change Scoping Plan* and the *First Update* while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health. The *2017 Update* includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade program, which constraints and reduces emissions at covered sources.[30]

CARB's projected statewide 2030 emissions inventory takes into account 2020 GHG reduction policies and programs.[31] The 2017 Scoping Plan also addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. Under the Scoping Plan Scenario, the majority of the reductions would result from the continuation of the Cap-and-Trade regulation. Additional reductions would be achieved from electricity sector standards (i.e., utility providers to supply 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., HCFs), and implementing the mobile source strategy and sustainable freight action plan. Implementation of mobile source strategies (cleaner technology and fuels) include the following:

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[26] CARB, *First Update to the Climate Change Scoping Plan: Building on the Framework Pursuant to AB 32 The California Global Warming Solutions Act of 2006*, May 2014, p. 14, accessed July 12, 2022.

[27] *Ibid*, p. 6.

[28] *Ibid*, p. 32.

[29] CARB, *California's 2017 Climate Change Scoping Plan*, November 2017, https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf, accessed July 12, 2022.

[30] *Ibid*, p. 6.

[31] *Ibid*.

- At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025
- At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030
- Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Cars regulations
- Medium- and heavy-duty GHG Phase 2
- Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.
- Last Mile Delivery: New regulation that would result in the use of low NO_X or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for Class 3–7 last mile delivery trucks in California. This measure assumes Zero-Emission Vehicles (ZEVs) comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.
- Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."

The alternatives in the Scoping Plan are designed to consider various combinations of these programs, as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued. However, in July 2017, the California Legislature voted to extend the Cap-and-Trade regulation to 2030.

The 2017 Scoping Plan discusses the role of local governments in meeting the State's greenhouse gas reductions goals because local governments have jurisdiction and land use authority related to: community-scale planning and permitting processes, local codes and actions, outreach and education programs, and municipal operations.[32] Furthermore, local governments may have the ability to incentivize renewable energy, energy efficiency, and water efficiency measures.[33]

For individual projects under CEQA, the 2017 Scoping Plan states that local governments can support climate action when considering discretionary approvals and entitlements. According to the 2017 Scoping Plan, lead agencies have the discretion to develop evidence-based numeric thresholds consistent with the Scoping Plan, the State's long-term goals, and climate change science.[34]

The City has not developed per capita targets for 2030 or 2050; however, the City recognizes that GHG emissions reductions are necessary in the public and private sectors. The City has taken the initiative in combating climate change by developing programs such as the Green New Deal and Green Building Code. Each of these programs is discussed further below.

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[32]CARB, *California's 2017 Climate Change Scoping Plan*, p. 97, November 2017.
[33]*Ibid.*
[34]CARB, *California's 2017 Climate Change Scoping Plan*, p. 100, November 2017.

A summary of the GHG emissions reductions required under HSC Division 25.5 is provided in **Table 3-3**, *Estimated Statewide Greenhouse Gas Emissions Reductions Required by HSC Division 25.5*. Under the Scoping Plan Scenario, continuation of the Cap-and-Trade regulation (or carbon tax) is expected to cover approximately 34 to 79 MMTCO_2 of the 2030 reduction obligation.[35] The State's short-lived climate pollutants strategy, which is for GHGs that remain in the atmosphere for shorter periods of time compared to longer-lived GHGs like CO_2, is expected to cover approximately 17 to 35 MMTCO_2e. The Renewables Portfolio Standard with 50 percent renewable electricity by 2030 is expected to cover approximately 3 MMTCO_2. The mobile source strategy and sustainable freight action plan includes maintaining the existing vehicle GHG emissions standards, increasing the number of zero emission vehicles and improving the freight system efficiency, and is expected to cover approximately 11 to 13 MMTCO_2.

TABLE 3-3: STATEWIDE GHG EMISSIONS REDUCTIONS REQUIRED BY HSC DIVISION 25.5

Emissions Scenario	GHG Emissions (MMTCO_2e)
2008 SCOPING PLAN (IPCC SAR)	
2020 BAU Forecast (CARB 2008 Scoping Plan Estimate)	596
2020 Emissions Target Set by AB 32 (i.e., 1990 level)	427
Reduction below Business-As-Usual necessary to achieve 1990 levels by 2020	169 (28.4%) [/a/]
2011 SCOPING PLAN (IPCC AR4)	
2020 BAU Forecast (CARB 2011 Scoping Plan Estimate)	509.4
2020 Emissions Target Set by AB 32 (i.e., 1990 level)	431
Reduction below Business-As-Usual necessary to achieve 1990 levels by 2020	78.4 (15.4%) [/b/]
2017 SCOPING PLAN UPDATE	
2030 BAU Forecast ("Reference Scenario" which includes 2020 GHG reduction policies and programs)	389
2030 Emissions Target Set by HSC Division 25.5 (i.e., 40% below 1990 Level)	260
Reduction below Business-As-Usual Necessary to Achieve 40% below 1990 Level by 2030	129 (33.2%) [/c/]

NOTES: *MMTCO_2e = million metric tons of carbon dioxide equivalents*
/a/ 596 – 427 = 169 / 596 = 28.4%
/b/ 509.4 – 431 = 78.4 / 509.4 = 15.4%
/c/ 389 – 260 = 129 / 389 = 33.2%
SOURCE: CARB, *Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (FED), Attachment D*, August 19, 2011; CARB, *2020 Business-as-Usual (BAU) Emissions Projection, 2014 Edition*, 2017, http://www.arb.ca.gov/cc/inventory/data/bau.htm, accessed July 12, 2022; CARB, *California's 2017 Climate Change Scoping Plan*, November 2017, https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf, accessed January 2, 2024.

2022 Scoping Plan for Achieving Carbon Neutrality. The 2022 Scoping Plan Update is the most comprehensive and far-reaching Scoping Plan developed to date. It identifies a technologically feasible, cost-effective, and equity-focused path to achieve new targets for carbon neutrality by 2045 and to reduce anthropogenic GHG emissions to at least 85 percent below 1990 levels, while also assessing the progress California is making toward reducing its GHG emissions by at least 40

[35] CARB, *California's 2017 Climate Change Scoping Plan, Appendix G*, November 2017, https://www.arb.ca.gov/cc/scopingplan/2030sp_appg_alt-ab197aq-health_final.pdf, accessed January 2, 2024.

percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan.[36] The 2030 target is an interim but important stepping stone along the critical path to the broader goal of deep decarbonization by 2045. The relatively longer path assessed in the 2022 Scoping Plan Update incorporates, coordinates, and leverages many existing and ongoing efforts to reduce GHGs and air pollution, while identifying new clean technologies and energy. Given the focus on carbon neutrality, the 2022 Scoping Plan Update also includes discussion for the first time of the natural and working lands sectors as sources for both sequestration and carbon storage, and as sources of emissions as a result of wildfires. **Table 3-4** provides an overview of the GHG emissions reductions that are forecasted in the 2022 Scoping Plan Update.

TABLE 3-4: STATEWIDE GHG EMISSIONS REDUCTIONS IN THE 2022 SCOPING PLAN

Emissions Scenario	GHG Emissions ($MMTCO_2e$)
2019	
2019 State GHG Emissions	404
2030	
2030 BAU Forecast	312
2030 GHG Emissions without Carbon Removal and Capture	233
2030 GHG Emissions with Carbon Removal and Capture	226
2030 Emissions Target Set by AB 32 (i.e., 1990 levels by 2030)	260
Reduction below BAU Necessary to Achieve 1990 Levels by 2030	52 (16.7%)[/a/]
2045	
2045 BAU Forecast	266
2045 GHG Emissions without Carbon Removal and Capture	72
2045 GHG Emissions with Carbon Removal and Capture	(3)

NOTES: *$MMTCO_2e$ = million metric tons of carbon dioxide equivalents; parenthetical numbers represent negative values.*
/a/ 312 – 260 = 52; 52 / 312 = 16.7%
SOURCE: CARB, *2022 Climate Change Scoping Plan for Achieving Carbon Neutrality*, accessed January 2, 2024.

Cap-and-Trade Program. The Climate Change Scoping Plan identified a Cap-and-Trade Program as one of the strategies California would employ to reduce GHG emissions. CARB asserts that this program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by the year 2020, and ultimately achieving an 80 percent reduction from 1990 levels by 2050. Under Cap-and-Trade, an overall limit on GHG emissions from capped sectors is established and facilities subject to the cap will be able to trade permits to emit GHGs. CARB designed and adopted a California Cap-and-Trade Program pursuant to its authority under AB 32.[37] The development of this Program included a multi-year stakeholder process and consideration of potential impacts on disproportionately impacted communities. The Cap-and-Trade Program is designed to reduce GHG emissions from public and private major sources (deemed “covered entities”) by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32’s emission-reduction mandate of returning to 1990 levels of emissions by 2020. The statewide cap for GHG

[36] *CARB, California’s 2017 Climate Change Scoping Plan, 2017,* ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf.

[37] California Code of Regulations 17, Sections 95800 to 96023.

emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the Program's duration.[38]

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities that emit more than 25,000 $MTCO_2e$ per year must comply with the Cap-and-Trade Program.[39] Triggering of the 25,000 $MTCO_2e$ per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (Mandatory Reporting Rule or "MRR").[40]

Each covered entity with a compliance obligation is required to surrender "compliance instruments"[41] for each $MTCO_2e$ of GHG they emit. Covered entities are allocated free allowances in whole or part (if eligible), and are able to buy allowances at auction, purchase allowances from others, or purchase offset credits.

The Cap-and-Trade Regulation provides a firm cap, ensuring that the statewide emission limits will not be exceeded. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site-specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by CARB under AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures.

The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-State or imported.[42] Accordingly, for projects that are subject to the CEQA, GHG emissions from electricity consumption are covered by the Cap-and-Trade Program. The Program applies to emissions that cover approximately 80 percent of the State's GHG emissions. Demonstrating the efficacy of AB 32 policies, California achieved its 2020 GHG Reduction Target four years earlier than mandated. The largest reductions were the result of increased renewable electricity in the electricity sector, which is a covered sector in the Cap-and-Trade Program.

AB 398 was enacted in 2017 to extend and clarify the role of the State's Cap-and-Trade Program through December 31, 2030. As part of AB 398, refinements were made to the Cap-and-Trade program to establish updated protocols and allocation of proceeds to reduce GHG emissions.

3.2.2.4 Energy-Related (Stationary) Sources

Emission Performance Standards. SB 1368, signed September 29, 2006, is a companion bill to AB 32, which requires the CPUC and the CEC to establish GHG emission performance standards for the generation of electricity. These standards also generally apply to power that is generated outside of California and imported into the State. SB 1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting CARB to meet its mandate under AB 32.

Renewables Portfolio Standard. SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017 as an RPS. Subsequent amendments

[38] *Ibid,* Sections 95811 and 95812.
[39] *Ibid,* Section 95812.
[40] *Ibid,* Sections 95100-95158.
[41] Compliance instruments are permits to emit, the majority of which will be "allowances," but entities also are allowed to use CARB-approved offset credits to meet up to 8% of their compliance obligations.
[42] California Code of Regulations 17, Section 95811(b).

provided additional targets throughout the years. Most recently, on October 7, 2015, SB 350 (Chapter 547, Statues of 2015), also known as the Clean Energy and Pollution Reduction Act, further increased the RPS to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. SB 350 also requires the State to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. The 2017 Climate Change Scoping Plan incorporated the SB 350 standards and estimated the GHG reductions would account for approximately 21 percent of the Scoping Plan reductions.[43] On September 10, 2018, SB 100, provided additional RPS targets of 44 percent by 2024, 52 percent by 2027, and 60 percent by 2030, and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by 2045.[44]

3.2.2.5 Mobile Sources

Pavley Standards. AB 1493 (Chapter 200, Statutes of 2002), enacted on July 22, 2002, required CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In 2004, CARB approved the Pavley regulation to require automakers to control GHG from new passenger vehicles for the 2009 through 2016 model years. Upon adoption of subsequent federal GHG standards by the USEPA that preserved the benefits of the Pavley regulations, the Pavley regulations were revised to accept compliance with the federal standards as compliance with California's standards in the 2012 through 2016 model years. This is referred to as the "deemed to comply" option.

In January 2012, CARB approved greenhouse gas emission regulations which require further reductions in passenger greenhouse gas emissions for 2017 and subsequent vehicle model years. As noted above, in August 2012, the USEPA and USDOT adopted GHG emission standards for model year 2017 through 2025 vehicles. On November 15, 2012, CARB approved an amendment that allows manufacturers to comply with the 2017-2025 national standards to meet State law. Automobile manufacturers generally comply with these standards through a combination of improved energy efficiency in vehicle equipment (e.g., air conditioning systems) and engines as well as sleeker aerodynamics, use of strong but lightweight materials, and lower-rolling resistance tires.[45]

California Low Carbon Fuel Standard. Executive Order S-01-07 was enacted on January 18, 2007. The order mandates the following: (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and (2) that a LCFS for transportation fuels be established in California. The final regulation was approved by the Office of Administrative Law and filed with the Secretary of State on January 12, 2010. In September 2015, CARB approved the re-adoption of the LCFS to address procedural deficiencies in the way the original regulation was adopted.[46] The development of the 2017 Update has identified LCFS as a regulatory measure to reduce GHG emission to meet the 2030 emissions target. In September 2018, the standards were amended by CARB to require a 20 percent reduction in carbon intensity by 2030, aligning with California's 2030 targets set by SB 32.[47]

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[43]CARB, *California's 2017 Climate Change Scoping Plan*, Table 3, p. 31, November 2017. Calculated as: (108 – 53) / 260 = 21 percent.

[44]California Legislative Information, *SB-100 California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases*.

[45]CARB, *California's Advanced Clean Cars Midterm Review*, pp. ES-17, C-9.

[46]CARB, *Low Carbon Fuel Standard*, 2018, https://www.arb.ca.gov/fuels/lcfs/lcfs.htm, accessed July 12, 2022.

[47]CARB, *CARB amends Low Carbon Fuel Standard for wider impact*, 2018, https://ww2.arb.ca.gov/index.php/news/carb-amends-low-carbon-fuel-standard-wider-impact, accessed July 12, 2022.

Advanced Clean Cars Regulations. In 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015–2025.[48] The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the ZEV regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years. During the March 2017 Midterm Review, CARB voted unanimously to continue with the vehicle GHG emission standards and the ZEV program for cars and light trucks sold in California through 2025.[49] Effective November 26, 2019, the federal SAFE Vehicles Rule Part One: One National Program withdrew the California waiver for the GHG and ZEV programs under section 209 of the Clean Air Act, which revokes California's authority to implement the Advanced Clean Cars and ZEV mandates. In response, several states including California filed a lawsuit challenging the withdrawal of the EPA waiver.[50] In April 2021, the USEPA announced it will move to reconsider its previous withdrawal of the waiver.[51]

In addition, Governor Gavin Newsom signed an executive order (Executive Order No. N-79-20) on September 23, 2020, that would phase out sales of new gas-powered passenger cars by 2035 in California with an additional 10-year transition period for heavy vehicles. The State would not restrict used car sales, nor forbid residents from owning gas-powered vehicles. In accordance with the Executive Order, CARB is developing a 2020 Mobile Source Strategy, a comprehensive analysis that presents scenarios for possible strategies to reduce the carbon, toxic and unhealthy pollution from cars, trucks, equipment, and ships. The strategies will provide important information for numerous regulations and incentive programs going forward by conveying what is necessary to address the aggressive emission reduction requirements.

The primary mechanism for achieving the ZEV target for passenger cars and light trucks is CARB's Advanced Clean Cars II (ACC II) Program. The ACC II regulations will focus on post-2025 model year light-duty vehicles, as requirements are already in place for new vehicles through the 2025 model year.

Sustainable Communities and Climate Protection Act (SB 375). The Sustainable Communities and Climate Protection Act of 2008, or SB 375 (Chapter 728, Statutes of 2008), establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the State on September 30, 2008. SB 375 finds that the "transportation sector is the single largest contributor of greenhouse gases of any sector."[52] Under SB 375, CARB is required, in consultation with the Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. SCAG is the Metropolitan Planning Organization in which the City of Los Angeles is located in. CARB set targets for 2020 and 2035 for each of the 18 metropolitan planning organization regions in 2010, and updated them in 2018.[53] In March 2018, the CARB updated the SB 375 targets for the SCAG region to require an 8 percent reduction by 2020 and a 19 percent reduction by 2035 in per capita passenger vehicle GHG emissions.[54] As discussed further below, SCAG has adopted an updated Regional Transportation Plan / Sustainable Community Strategies (RTP/SCS) subsequent to the update of the emission

[48]CARB, *California's Advanced Clean Cars Program*, www.arb.ca.gov/msprog/acc/acc.htm.

[49]CARB, News Release: *CARB finds vehicle standards are achievable and cost-effective*, ww2.arb.ca.gov/news/carb-finds-vehicle-standards-are-achievable-and-cost-effective, accessed July 12, 2022.

[50]United States District Court for the District Court of Columbia, State of California vs. Chao, Case 1:19-cv-02826, 2019.

[51]United States Federal Register, *California State Motor Vehicle Pollution Control Standards; Advanced Clean Car Program; Reconsideration of a Previous Withdrawal of a Waiver of Preemption; Opportunity for Public Hearing and Public Comment (Document Number: 2021-08826),* April 28, 2021.

[52]State of California, Senate Bill No. 375, September 30, 2008.

[53]CARB, *Sustainable Communities & Climate Protection Program – About*. https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-climate-protection-program/about, accessed July 12, 2022.

[54]CARB, *SB 375 Regional Greenhouse Gas Emissions Reduction Targets*, 2018.

targets. The 2020–2045 RTP/SCS is expected to reduce per capita transportation emissions by 19 percent by 2035, which is consistent with SB 375 compliance with respect to meeting the State's GHG emission reduction goals.[55]

Under SB 375, the target must be incorporated within that region's RTP, which is used for long-term transportation planning, in SCS) Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plans) are not required to be consistent with either the RTP or SCS.

Senate Bill 743. Governor Brown signed SB 743 in 2013, which creates a process to change the way that transportation impacts are analyzed under CEQA. Specifically, SB 743 requires the Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to level of service methodology for evaluating transportation impacts. Particularly within areas served by transit, the required alternative criteria must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." Measurements of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated."

3.2.2.6 Building Standards

California Appliance Efficiency Regulations. The 2014 Appliance Efficiency Regulations (Title 20, Sections 1601 through 1608), adopted by the CEC, include standards for new appliances (e.g., refrigerators) and lighting, if they are sold or offered for sale in California. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

Title 24, Building Standards Code and CALGreen Code. The CEC first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the State. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards is referred to as the California Green Building Standards (CALGreen) Code and was developed to help the State achieve its GHG reduction goals under HSC Division 25.5 (e.g., AB 32) by codifying standards for reducing building-related energy, water, and resource demand, which in turn reduces GHG emissions from energy, water, and resource demand. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."[56] The CALGreen Code is not intended to substitute for or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission. The CALGreen Code establishes mandatory measures for new residential and non-

[55] SCAG, *Final 2020–2045 RTP/SCS, Chapter 0: Making Connections*, p. 5, 2020.
[56] California Building Standards Commission, *2010 California Green Building Standards Code*, (2010).

residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality.[57]

On August 11, 2021, the CEC adopted the 2022 Title 24 Standards, which went into effect on January 1, 2023. The 2022 standards continue to improve upon the previous (2019) Title 24 standards for new construction of, and additions and alterations to, residential and non-residential buildings.[58] The 2022 Title 24 Standards "build on California's technology innovations, encouraging energy efficient approaches to encourage building decarbonization, emphasizing in particular on heat pumps for space heating and water heating. This set of Energy Codes also extends the benefits of photovoltaic and battery storage systems and other demand flexible technology to work in combinations with heat pumps to enable California buildings to be responsive to climate change. This Energy code also strengthens ventilation standards to improve indoor air quality. This update provides crucial steps in the state's progress toward 100 percent clean carbon neutrality by midcentury." The 2022 Energy Code is anticipated to reduce GHG emissions by 10 $MMTCO_2e$ over the next 30 years and result in approximately 1.5 billion dollars in consumer savings.[59] Compliance with Title 24 is enforced through the building permit process.

However, neither a threshold of significance nor any specific mitigation measures are included or provided in the Guidelines Amendments.[60] The Guidelines Amendments require a lead agency to make a good-faith effort, based on the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The Guidelines Amendments give discretion to the lead agency whether to: (1) use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use; or (2) rely on a qualitative analysis or performance-based standards. Furthermore, the Guidelines Amendments identify three factors that should be considered in the evaluation of the significance of GHG emissions:

1. The extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.[61]

The administrative record for the Guidelines Amendments also clarifies "that the effects of greenhouse gas emissions are cumulative and should be analyzed in the context of California Environmental Quality Act's requirements for cumulative impact analysis."[62]

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[57] *Ibid*.

[58] CEC, 2022 *Building Energy Efficiency Standards*.

[59] CEC, *Energy Commission Adopts Updated Building Standards to Improve Efficiency, Reduce Emissions from Homes and Businesses*, https://www.energy.ca.gov/news/2021-08/energy-commission-adopts-updated-building-standards-improve-efficiency-reduce-0, accessed January 30, 2024.

[60] See 14 Cal. Code Regs. §§ 15064.7 (generally giving discretion to lead agencies to develop and publish thresholds of significance for use in the determination of the significance of environmental effects), 15064.4 (giving discretion to lead agencies to determine the significance of impacts from GHGs).

[61] 14 Cal. Code Regs. § 15064.4(b).

[62] Letter from Cynthia Bryant, Director of the Governor's Office of Planning and Research to Mike Chrisman, California Secretary for Natural Resources, dated April 13, 2009.

3.2.3 Regional

3.2.3.1 South Coast Air Quality Management District (SCAQMD)

The City of Los Angeles is located in the South Coast Air Basin (Air Basin), which consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside Counties, in addition to the San Gorgonio Pass area in Riverside County. SCAQMD is responsible for air quality planning in the Air Basin and developing rules and regulations to bring the area into attainment of the ambient air quality standards. This is accomplished through air quality monitoring, evaluation, education, implementation of control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations, and by supporting and implementing measures to reduce emissions from motor vehicles.

In 2008, SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds.[63] A GHG Significance Threshold Working Group was formed to further evaluate potential GHG significance thresholds.[64] The SCAQMD proposed the use of a percent emission reduction target to determine significance for industrial park/warehouse projects that emit greater than 3,000 $MTCO_2e$ per year. Under this proposal, industrial park/warehouse projects that emit fewer than 3,000 $MTCO_2e$ per year would be assumed to have a less than significant impact on climate change. This threshold was not formally adopted and the SCAQMD has yet to adopt a GHG significance threshold for land use development projects. The Working Group has been inactive since 2011, and SCAQMD has not formally adopted any GHG significance threshold for other jurisdictions.

3.2.3.2 SCAG Regional Transportation Plan/Sustainable Communities Strategy

To implement SB 375 and reduce GHG emissions by correlating land use and transportation planning, SCAG adopted the 2020–2045 RTP/SCS in October 2020. The vision for the region incorporates a range of best practices for increasing transportation choices, reducing dependence on personal automobiles, further improving air quality, and encouraging growth in walkable, mixed-use communities with ready access to transit infrastructure and employment. More and varied housing types and employment opportunities would be located in and near job centers, transit stations and walkable neighborhoods where goods and services are easily accessible via shorter trips. To support shorter trips, people would have the choice of using neighborhood bike networks, car share or micro-mobility services like shared bicycles or scooters. For longer commutes, people would have expanded regional transit services and more employer incentives to carpool or vanpool. Other longer trips would be supported by on-demand services such as microtransit, carshare, and citywide partnerships with ride hailing services. For those that choose to drive, hotspots of congestion would be less difficult to navigate due to cordon pricing and using an electric vehicle will be easier thanks to an expanded regional charging network.

The 2020–2045 RTP/SCS states that the SCAG region was home to about 18.8 million people in 2016 and currently includes approximately 6.0 million homes and 8.4 million jobs.[65] By 2045, the integrated growth forecast projects that these figures will increase by 3.7 million people, with nearly 1.6 million more homes and 1.6 million more jobs. Transit Priority Areas[66] (TPAs) will account for

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[63] SCAQMD, *Board Meeting, December 5, 2008, Agenda No. 31*, http://www3.aqmd.gov/hb/2008/December/081231a.htm, accessed July 12, 2022.

[64] SCAQMD, *Greenhouse Gases CEQA Significance Thresholds*, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds, accessed July 12, 2022.

[65] SCAG, 2020–2045 RTP/SCS population growth forecast methodology includes data for years 2010, 2010, 2016, and 2045.

[66] Defined by the 2020–2045 RTP/SCS as generally walkable transit villages or corridors that are within 0.5 mile of a major transit stop (rail or bus rapid transit station) with 15-minute or less service frequency during peak commute hours.

less than 1 percent of regional total land but are projected to accommodate 30 percent of future household growth between 2016 and 2045. The 2020–2045 RTP/SCS overall land use pattern reinforces the trend of focusing new housing and employment in the region's TPAs.

The 2020–2045 RTP/SCS is expected to reduce per capita transportation emissions by 19 percent by 2035, which is consistent with SB 375 compliance with respect to meeting the State's GHG emission reduction goals.[67] Due to fuel economy and efficiency improvements, GHG emission rates of model year 2017 vehicles have decreased by 15 to 20 percent when compared to model year 2008 and earlier vehicles. However, for purposes of SB 375 emissions reduction targets, the fuel economy improvements have been largely excluded from the reduction calculation. The SB 375 target focuses on the amount of vehicle travel per capita. As discussed above, OPR recommended that achieving 15 percent lower per capita (residential) or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals (i.e., SB 375 goal). The reductions generated by fuel economy improvements are already included as part of the State's GHG emissions reduction program and are not double counted in the SB 375 target calculation.

3.2.4 Local

3.2.4.1 LADWP Power Strategic Long-Term Resource Plan

The 2022 Power Strategic Long-Term Resource Plan (SLTRP) serves as a comprehensive roadmap through 2045 that guides LADWP Power System in its efforts to supply reliable electricity in an environmentally responsible and cost-effective manner. The 2022 SLTRP is largely driven by Mayoral directives and City Council motions that instructed LADWP to prepare an SLTRP to achieve 100 percent carbon-free energy by 2035. Previous SLTRPs, including the most recent 2017 SLTRP, only considered incremental updates in clean energy objectives which reflected the general cadence of development within the power utility industry. The 2022 SLTRP includes numerous updates related to new renewable projects, associated transmission upgrade cost and fuel cost assumptions, staffing requirements, and several other critical updates. The SLTRP uses system modeling tools to analyze and determine the long-term economic, environmental, and operational impact of alternative resource portfolios by simulating the integration of new resource alternatives within LADWP's existing mix of assets and providing the analytic results to inform the selection of a recommended case that considers various factors such as minimal adverse rate impacts on customers, prioritizing environmental stewardship and equity, and maintaining reliability and resiliency.

3.2.4.2 Green New Deal

The City of Los Angeles first addressed the issue of global climate change in *GreenLA, An Action Plan to Lead the Nation in Fighting Global Warming* ("LA Green Plan/ClimateLA") in 2007.[68] This document outlines the goals and actions the City has established to reduce the generation and emission of GHGs from both public and private activities.

On April 8, 2015, Mayor Eric Garcetti released Los Angeles' first ever *Sustainable City pLAn* (the *pLAn*).[69] The *pLAn* sets the course for a cleaner environment and stronger economy, with commitment to equity as its foundation. The pLAn is made up of short term (2017 horizon) and long term (2025 and 2035 horizons) targets in various topic areas, including: water, solar power, energy-efficient buildings, carbon and climate leadership, waste and landfills, housing and development,

[67] SCAG, *Final 2020–2045 RTP/SCS, Chapter 0: Making Connections*, p. 5, 2020.
[68] City of Los Angeles, *GreenLA: An Action Plan to Lead the Nation in Fighting Global Warming*, 2007.
[69] City of Los Angeles, *Sustainable City pLAn*, April 2015, http://plan.lamayor.org/wp-content/uploads/2017/03/the-plan.pdf, accessed July 12, 2022.

mobility and transit, and air quality, among others. The pLAn set out an ambitious vision for cutting GHG emissions, reducing the impact of climate change and building support for national and global initiatives. The 2015 *Sustainable City pLAn* sets targets to reduce GHG emissions below the 1990 baseline level by 45 percent by 2025, 60 percent by 2035, and 80 percent by 2050. Specific targets included increasing the proportion of new housing units built within 1,500 feet of transit to 57 percent by 2025, reducing VMT per capita by five percent by 2025, and increasing trips made by walking, biking, or transit by at least 35 percent by 2025.

In April 2019, the *Green New Deal (Sustainable City Plan 2019)*, was released, consisting of a program of actions designed to create sustainability-based performance targets through 2050 designed to advance economic, environmental, and equity objectives.[70] L.A.'s Green New Deal is the first four-year update to the City's first Sustainable City pLAn that was released in 2015.[71] It augments, expands, and elaborates L.A.'s vision for a sustainable future and tackles the climate emergency with accelerated targets and new aggressive goals.

While not a plan adopted solely to reduce GHG emissions, within *L.A.'s Green New Deal*, "Climate Mitigation," or reduction of GHG is one of eight explicit benefits that help define its strategies and goals. These include reducing GHG emissions through the following near-term outcomes:

- Reduce potable water use per capita by 22.5 percent by 2025; 25 percent by 2035; and maintain or reduce 2035 per capita water use through 2050.
- Reduce building energy use per square feet for all building types 22 percent by 2025; 34 percent by 2035; and 44 percent by 2050 (from a baseline of 68 MMBTU/sq-ft in 2015).
- All new buildings will be net zero carbon by 2030 and 100 percent of buildings will be net zero carbon by 2050.
- Increase cumulative new housing unit construction to 150,000 by 2025; and 275,000 units by 2035.
- Ensure 57 percent of new housing units are built within 1,500 feet of transit by 2025; and 75 percent by 2035.
- Increase the percentage of all trips made by walking, biking, micro-mobility/matched rides or transit to at least 35 percent by 2025, 50 percent by 2035, and maintain at least 50 percent by 2050.
- Reduce VMT per capita by at least 13 percent by 2025; 39 percent by 2035; and 45 percent by 2050.
- Increase the percentage of electric and zero emission vehicles in the city to 25 percent by 2025; 80 percent by 2035; and 100 percent by 2050.
- Increase landfill diversion rate to 90 percent by 2025; 95 percent by 2035 and 100 percent by 2050.
- Reduce municipal solid waste generation per capita by at least 15 percent by 2030, including phasing out single-use plastics by 2028 (from a baseline of 17.85 lbs. of waste generated per capita per day in 2011).
- Eliminate organic waste going to landfill by 2028.
- Reduce urban/rural temperature differential by at least 1.7 degrees by 2025; and 3 degrees by 2035.

[70] City of Los Angeles. LA's Green New Deal, 2019.
[71] City of Los Angeles, Sustainable City pLAn, April 2015.

- Ensure proportion of Angelenos living within 1/2 mile of a park or open space is at least 65 percent by 2025; 75 percent by 2035; and 100 percent by 2050.

3.2.4.3 City of Los Angeles Green Building Code

On December 11, 2019, the Los Angeles City Council approved Ordinance No. 186,488, which amended Chapter IX of the Los Angeles Municipal Code (LAMC), referred to as the Los Angeles Green Building Code, by adding a new Article 9 to incorporate various provisions of the 2019 CALGreen Code. Projects filed on or after January 1, 2020, must comply with the provisions of the Los Angeles Green Building Code. Specific mandatory requirements and elective measures are provided for three categories: (1) low-rise residential buildings; (2) nonresidential and high-rise residential buildings; and (3) additions and alterations to nonresidential and high-rise residential buildings. Article 9, Division 5 includes mandatory measures for newly constructed nonresidential and high-rise residential buildings.

3.2.4.4 City of Los Angeles Solid Waste Programs and Ordinances

The recycling of solid waste materials also contributes to reduced energy consumption. Specifically, when products are manufactured using recycled materials, the amount of energy that would have otherwise been consumed to extract and process virgin source materials is reduced as well as disposal energy averted. In 1989, California enacted AB 939, the California Integrated Waste Management Act, which establishes a hierarchy for waste management practices such as source reduction, recycling, and environmentally safe land disposal.

The City has developed and is in the process of implementing the Solid Waste Integrated Resources Plan, also referred to as the Zero Waste Plan, whose goal is to lead the City towards being a “zero waste” City by 2030. These waste reduction plans, policies, and regulations, along with Mayoral and City Council directives, have increased the level of waste diversion for the City to 76 percent as of 2013.[72] The RENEW LA Plan, aims to achieve a zero waste goal through reducing, reusing, recycling, or converting the resources not going to disposal and achieving a diversion rate of 90 percent or more by 2025.[73] The City has also approved the Waste Hauler Permit Program (Ordinance No. 181,519, LAMC Chapter VI, Article 6, Section 66.32-66.32.5), which requires private waste haulers to obtain AB 939 Compliance Permits to transport construction and demolition waste to City-certified construction and demolition waste processors. The City’s Exclusive Franchise System Ordinance (Ordinance No. 182,986), among other requirements, sets a maximum annual disposal level and diversion requirements for franchised waste haulers to promote waste diversion from landfills and support the City’s zero waste goals. These programs reduce the number of trips to haul solid waste and therefore reduce the amount of petroleum-based fuels and energy used to process solid waste.

3.2.4.5 City of Los Angeles General Plan

The City does not have a General Plan Element specific to climate change and GHG emissions, and its General Plan does not have any stated goals, objectives, or policies specifically addressing climate change and GHG emissions. However, the following five goals from the City’s General Plan Air Quality Element would also lead to GHG emission reductions:[74]

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[72]City of Los Angeles, Department of Public Works, LA Sanitation, *Recycling. https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-r?_adf.ctrl-state=kq9mn3h5a_188,* accessed July 12, 2022.

[73]City of Los Angeles*, RENEW LA, Five-Year Milestone Report, 2011.*

[74]City of Los Angeles, *Air Quality Element*, June 1991, pages IV-1 to IV-4, https://planning.lacity.org/cwd/gnlpln/aqltyelt.pdf, accessed July 12, 2022.

- Less reliance on single-occupancy vehicles with fewer commute and non-work trips;
- Efficient management of transportation facilities and system infrastructure using cost-effective system management and innovative demand-management techniques;
- Minimal impacts of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation, and air quality;
- Energy efficiency through land use and transportation planning, the use of renewable resources and less-polluting fuels, and the implement of conservation measures, including passive measures, such as site orientation and tree planting; and
- Citizen awareness of the linkages between personal behavior and air pollution and participation in efforts to reduce air pollution.

3.2.4.6 Mobility Plan 2035

In August 2015, the City Council adopted Mobility Plan 2035 (Mobility Plan), which serves as the City's General Plan circulation element. The City Council has adopted several amendments to the Mobility Plan since its initial adoption, including the most recent amendment on September 7, 2016.[75] The Mobility Plan incorporates "complete streets" principles and lays the policy foundation for how the City's residents interact with their streets. While the Mobility Plan 2035 mainly relates to transportation, certain components would serve to reduce VMT and mobile source GHG emissions. One component of the Mobility Plan is a GHG emission tracking program to establish compliance with SB 375, AB 32 and the region's Sustainable Community Strategy.

3.2.4.7 Los Angeles Transportation Study Policies and Procedures

The City of Los Angeles Department of Transportation (LADOT) has developed the City Transportation Assessment Guidelines (TAG) (July 2019, updated July 2020 and August 2022) to provide the public, private consultants, and City staff with standards, guidelines, objectives, and criteria to be used in the preparation of a transportation assessment. The TAG establishes the reduction of vehicle trips and VMT as the threshold for determining transportation impacts and thus is an implementing mechanism of the City's strategy to reduce land use transportation-related GHG emissions consistent with AB 32, SB 32, and SB 375.

3.3 EXISTING SETTING

3.3.1 Statewide GHG Emissions Inventory

The CARB is responsible for preparing, adopting, and updating California's GHG emissions inventory under Assembly Bill 1803 (2006). The State's annual GHG emissions inventory provides an important tool for establishing historical emissions trends and tracking California's progress in reducing GHGs. The 2021 edition of the CARB GHG inventory includes emissions of seven GHGs identified in AB 32 for the years 2000–2019. **Table 3-5** displays the statewide GHG emissions from 2010 to 2019 by economic sector as defined in the 2008 Scoping Plan. Generally, California's GHG emissions have followed a declining trend over the past decade. In 2021, emissions from routine emitting activities statewide were approximately 54.2 $MMTCO_2e$ (12 percent) lower than 2012 levels, and approximately 50 $MMTCO_2e$ below the 1990 level (431 $MMTCO_2e$), which was the State's 2020 GHG target.

[75] *Los Angeles Department of City Planning, Mobility Plan 2035: An Element of the General Plan, approved by City Planning Commission on June 23, 2016, and adopted by City Council on September 7, 2016.*

TABLE 3-5: CALIFORNIA GREENHOUSE GAS EMISSIONS INVENTORY TREND										
	CO_2e Emissions (Million Metric Tons)									
Sector	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Transportation	156.9	156.9	157.6	161.2	165.0	166.4	165.2	162.3	135.6	145.6
Electric Power	99.4	94.0	90.3	86.3	70.8	64.4	65.0	60.2	59.5	62.4
Industrial	80.7	82.7	85.0	82.7	81.2	81.4	82.0	80.8	73.3	73.9
Commercial and Residential	39.1	39.0	35.5	37.2	37.7	38.3	37.5	40.6	38.9	38.8
Agriculture	35.2	33.7	33.7	32.6	32.1	31.6	32.1	31.3	31.5	30.9
High Global Warming Potential	15.8	17.0	17.9	18.8	19.4	20.1	20.5	20.7	21.3	21.3
Recycling and Waste	8.4	8.3	8.1	8.1	7.9	8.2	8.3	8.4	8.6	8.4
Emissions Total	**435.5**	**431.6**	**428.2**	**426.9**	**414.2**	**410.4**	**410.7**	**404.4**	**368.7**	**381.3**
SOURCE: CARB, *2000–2021 GHG Inventory (2023 Edition)*, available at https://ww2.arb.ca.gov/ghg-inventory-data.										

The transportation sector remains the largest source of statewide GHG emissions. The CARB data indicates that direct emissions from vehicle exhaust, off-road transportation mobile sources, intrastate aviation, rail, and watercraft account for approximately 38 percent of California's emissions in 2021. Emissions from the electricity sector account for approximately 16 percent of the inventory. The industrial sector has been relatively flat in recent years, representing approximately 19 percent of the total inventory. Emissions from other sectors have remained relatively constant in recent years, despite statewide population growth.

Of note, between October 23, 2015, and February 18, 2016, an exceptional natural gas leak event occurred at the Aliso Canyon natural gas storage facility that resulted in unexpected GHG emissions of considerable magnitude. The exceptional incident released approximately 109,000 metric tons of CH_4, which equated to approximately 1.96 $MMTCO_2e$ of unanticipated emissions in 2015 and an additional 0.52 $MMTCO_2e$ in 2016. Emissions associated with the transportation sector in 2017 were similar to those in 2009 despite substantial statewide growth, demonstrating improvements made in fuel economy to reduce average vehicle emissions.

3.3.1 LADWP Power Resource Mix

In 2016, LADWP achieved California's SB 32 target to reduce GHG emissions to 40 percent below 1990 levels by 2030, which was 14 years ahead of the deadline.[76] By the end of 2018, LADWP systemwide emissions were reduced to 49 percent below 1990 levels, and the 2017 SLTRP forecasts that LADWP GHG emissions will be reduced to 79 percent below 1990 levels by 2037, nearly achieving the 2050 E.O. B-30-15 target. According to information submitted to the State, LADWP's power mix in 2021 was comprised of 35 percent derived from renewable resources.[77]

[76]LADWP, *Briefing Book 2019-20*, March 2020, https://www.ladwpnews.com/2019-20-briefing-book/.
[77]LADWP, *2021 Power Content Label*, https://www.ladwp.com/powercontent.

3.4 IMPACT ANALYSIS

This section describes the applicable thresholds of significance and the methodological approach and analyzes potential impacts related to GHG emissions.

3.4.1 Thresholds of Significance

This Assessment was undertaken to determine whether construction or operation of the proposed project would have the potential to result in significant environmental impacts related to GHG emissions in the context of the Appendix G Environmental Checklist criteria of the CEQA Statute and Guidelines. Implementation of the proposed project may result in a significant environmental impact related to GHG emissions if the proposed project would:

[a] Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or

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

Section 15064.4 of the CEQA Guidelines states that a lead agency should make a good-faith effort to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The lead agency has the discretion to elect whether to quantify GHG emissions resulting from a project or rely on a qualitative analysis or performance-based standards. If a quantitative approach is chosen, the CEQA Guidelines promulgate that the lead agency should consider the following factors when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and,
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

The CEQA Guidelines encourage lead agencies to develop and publish thresholds of significance that the agency uses to standardize the determination of the significance of potential environmental effects of proposed projects. When adopting or using particular thresholds, the amended Guidelines allows lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that use of the thresholds are supported by substantial evidence, and/or to develop their own significance threshold.

Neither the City of Los Angeles/LADWP nor the South Coast Air Quality Management District (SCAQMD) has officially adopted a quantitative threshold screening value for determining the significance of GHG emissions that will be generated by projects under CEQA. However, the SCAQMD published a *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* in October 2008, which contained several recommendations developed by SCAQMD staff for quantitatively assessing GHG emissions subject to CEQA.[78] Over the course of two and a half years between 2008 and 2010, the SCAQMD convened a GHG CEQA Significance Threshold Stakeholder Working Group that met 15 times beginning in April of 2008 to examine alternatives for establishing quantitative GHG thresholds. Ultimately, the SCAQMD staff proposed a tiered approach to analyzing

[78] SCAQMD, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, October 2008.

the potential significance of GHG emissions from CEQA projects that was developed through collaboration with the Stakeholder Working Group:

- **Tier 1 –** Evaluate whether or not the project qualifies for any applicable exemption under CEQA.
- **Tier 2 –** Determine whether the project is consistent with a GHG reduction plan (that may be part of a local general plan, for example). The concept embodied in this tier is equivalent to the existing concept of consistency in CEQA Guidelines §§15064(h)(3), 15125(d), or 15152(a). The GHG reduction plan must, at a minimum, comply with AB 32 GHG reduction goals; include emissions estimates agreed upon by either CARB or the SCAQMD, have been analyzed under CEQA, and have a certified Final CEQA document.
- **Tier 3 –** Numerical Attempt to identify small projects that would not likely contribute to significant cumulative GHG impacts. SCAQMD recommended a bifurcated screening level approach to address industrial projects and residential/commercial projects (which are largely indirect sources). SCAQMD staff officially adopted a 10,000 $MTCO_2e$/year threshold for industrial projects for which the district is the lead agency in December 2008.[79] For non-industrial projects, the SCAQMD staff recommended either a singular bright line threshold of 3,000 $MTCO_2e$, or separate thresholds for residential projects (3,500 $MTCO_2e$), commercial projects (1,400 $MTCO_2e$), and mixed-use projects (3,000 $MTCO_2e$). The 3,000 $MTCO_2e$ threshold was also considered for industrial park/warehouse projects. These values were derived based on capturing approximately 90 percent of GHG emissions within the SCAQMD jurisdiction above the threshold so that mitigation measures to reduce emissions could be identified and enforced.
- **Tier 4 –** Performance Standards such as percent emission reduction targets or sector-based standards.
- **Tier 5 –** Pursue mitigation through CEQA Offsets (i.e., off-site GHG reduction credits).

The mitigation measures evaluated by SCAQMD staff were applicable to long-term, operational emissions. As the proposed project would generate GHG emissions predominantly during temporary construction activities and changes to long-term regional GHG emissions would be negligible, the GHG emissions analysis was prepared to address the threshold of 3,000 $MTCO_2e$ per year.

3.4.2 Methodology

In accordance with Section 15064.4(c), GHG emissions that will be generated by the proposed project were estimated using CalEEMod, Version 2022.1.1.21, which is the preferred regulatory tool recommended by SCAQMD for estimating GHG emissions from proposed land use development projects. CalEEMod relies on an emissions factors database compiled from the CARB EMission FACtor (EMFAC) on-road mobile source emissions inventory model and the CARB OFFROAD off-road equipment model, as well as regional survey data for energy resource consumption, water use, and solid waste generation. The following discussions describe sources of GHG emissions during temporary construction activities and future long-term operations.

[79] SCAQMD, *Minutes for the GHG CEQA Significance Working Group Meeting #15,* September 2010.

Construction

Sources of GHG emissions during construction will include heavy-duty off-road diesel equipment and vehicular travel to and from the project site. GHG emissions that would be generated during construction were estimated using CalEEMod. In accordance with SCAQMD guidance, GHG emissions that would be generated by construction of the proposed project were estimated and amortized over a 30-year operational lifetime.[80]

Construction Equipment Exhaust Emissions

Construction would result in short-term GHG emissions produced by construction equipment exhaust. CalEEMod calculates emissions of CO_2, CH_4, and N_2O from construction equipment using the following equation, where the emission factors (EFs) for CO_2, CH_4, and N_2O are populated from the CARB OFFROAD model and incorporated into CalEEMod for each type of equipment:

$$Emission_{DieselEx}[MTCO_2e] = \frac{\sum_i (EF_i \times GWP \times Pop_i \times AvgHp_i \times Load_i \times Activity_i)}{10^6}$$

Where:

EF_i	=	Emission factor in grams per horsepower-hour [g/hp-hr] from OFFROAD2017
GWP	=	Global Warming Potential Value (CO_2 = 1, CH_4 = 25, N_2O = 298)
Pop_i	=	Population, or number of pieces of equipment
$AvgHP_i$	=	Maximum rated average horsepower [HP]
$Load_i$	=	Load factor (average ratio of actual output to the maximum output, unitless)
$Activity_i$	=	Hours of operation
I	=	Equipment type
10^{-6}	=	Conversion factor [g/MT]

The OFFROAD model is the statewide emissions inventory for off-road equipment compiled by the CARB; factors from OFFROAD are built into the CalEEMod software based on the Project location. CalEEMod provides options for specifying equipment types, horsepower ratings, load factors, and operational hours per day during each activity. Construction equipment inventories were provided by the Applicant for each phase of construction, and default average equipment horsepower and default load factors derived from the statewide inventory for each type of equipment were relied upon to estimate daily emissions. Daily emissions from construction equipment during each phase were estimated using the equation above and converted from grams to pounds.

[80] SCAQMD, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, October 2008.

On-Road Vehicle Trips Mobile Source Emissions

Additionally, construction activities generate GHG emissions from on-road vehicle trips from personal vehicles for worker commuting, vendor deliveries of equipment and materials, and trucks for soil and debris hauling. These GHG emissions are based on the number of trips and the VMT, along with emission factors from EMFAC for CO_2, CH_4, and N_2O. CalEEMod accounts for running exhaust and evaporative emissions, as well as vehicle starts. Running exhaust GHG emissions are estimated in CalEEMod using the following equation:

$$Emissions_{Pollutant}[MTCO_2e] = \frac{VMT \times EF_{running,pollutant} \times GWP}{10^6}$$

Where:

VMT	=	Vehicle miles traveled [miles]
$Emissions_{pollutant}$	=	Emissions from vehicle running for each pollutant [grams]
$EF_{running,pollutant}$	=	Emission factor for running exhaust emissions in grams per mile [g/mi]
GWP	=	Global Warming Potential Value (CO_2 = 1, CH_4 = 25, N_2O = 298)
10^{-6}	=	Conversion factor [g/MT]

The CalEEMod program contains default trip lengths for workers, vendors, and material hauling based on regional survey data. The default values were replaced with project-specific information provided by the project design team. Detailed calculation inputs can be found in the **Appendix**.

Operations

Sources of GHG emissions during project operation include automobile trips, landscaping equipment, water use, and waste generation. Mobile source emissions were estimated using EMFAC emission rates in CalEEMod. The VMT for the proposed project is anticipated to be 2,133 miles for 172 employees. Emissions related to solid waste were calculated using the CalEEMod emissions inventory model, which multiplies an estimate of the waste generated by applicable emissions factors, provided in Section 2.4 of USEPA's AP-42, Compilation of Air Pollutant Emission Factors. CalEEMod solid waste generation rates for each applicable land use were selected for this analysis. Emissions related to water usage and wastewater generation were calculated using CalEEMod emission inventory model which multiplies an estimate of the water usage by the applicable energy intensity factor to determine the embodied energy necessary to supply potable water. GHG emissions are related to the energy used to convey, treat, and distribute water and wastewater. Thus, the emissions are generally indirect emissions from the production of electricity to power these systems. GHG emissions are then calculated based on the amount of electricity consumed multiplied by the GHG intensity factors for the utility provider. In this case, embodied energy for southern California supplied water and GHG intensity factors for LADWP were selected in CalEEMod.

3.4.3 Analysis of Proposed Project Impacts

[a] Would the proposed project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment? (*Less-Than-Significant Impact*)

Impact Analysis

The proposed project would generate GHG emissions during temporary construction activities and future long-term operations. Construction of the proposed project would generate a total of approximately 4,400 $MTCO_2e$, which equates to approximately 147 $MTCO_2e$ annually over a 30-year amortization schedule. **Table 3-6** presents the estimated annual GHG emissions that would be generated by operation of the proposed project from area, energy, mobile, water, and waste sources, as well as the amortized construction emissions. Annual GHG emissions would be approximately 1,399 $MTCO_2e$ during the first full year of operations, which is below the SCAQMD threshold value of 3,000 $MTCO_2e$. Therefore, implementation of the proposed project would result in a less-than-significant impact related to the magnitude of GHG emissions.

TABLE 3-6: PROPOSED PROJECT ANNUAL GREENHOUSE GAS EMISSIONS

Emissions Source	CO_2e Emissions (Metric Tons per Year)
Construction Emissions Amortized (Direct)	147
Operational Area Source Emissions (Direct)	3
Operational Energy Source Emissions (Indirect)	832
Operational Mobile Source Emissions (Direct)	169
Operational Waste Disposal Emissions (Indirect)	4
Operational Water Processes Emissions (Indirect)	244
TOTAL	**1,399**
SCAQMD Draft Interim Significance Threshold	3,000
Exceed Threshold?	**No**

SOURCE: TAHA, 2024.

Mitigation Measures

Impacts would be less than significant; no mitigation measures are required.

[b] Would the proposed project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs? (*Less-Than-Significant Impact*)

Impact Analysis

The proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The WQL would also be designed to meet Mayor Garcetti's Resilience by Design Directive by obtaining LEED gold certification, with the objective to achieve LEED Platinum certification and Envision Sustainable Infrastructure certification. The facility would also include a green roof, which would be covered with vegetation to reduce heat and capture stormwater. The conceptual design for the WQL incorporates best management practices and high-performance strategies in several of the major Sustainable City pLAn target areas. The facility would have a photovoltaic array on the roof tops of the building. It would also include an internal landscaped courtyard and green roof to conserve water through stormwater capture and treatment. Recycled water from LAGWRP would provide irrigation water for the proposed project landscaping, which would be drought-tolerant in the types and use of plant material. The building would achieve energy efficiency by implementing strategies including building orientation, high-performance building envelope, and effective daylighting complemented by high performance lighting and high efficiency HVAC systems.

The proposed project would include EV charging stations in compliance with LADBS EVCS requirements. It would incorporate recycled material in all aspects of the building construction to promote a sustainable supply chain. All lighting and lighting controls for the facility would comply with the latest version of the Building Energy Efficiency Standard (Title 24) and the California Green Building Standard Code. In addition, the DPR Demonstration Facility would help prove technologies that may eventually allow for the reuse of locally generated wastewater, thus limiting the use of imported water, which consumes the majority of the energy used by the water sector in the state. The Headworks Park component of the proposed project would incorporate landscaping reflective of native plant communities and provide educational opportunities regarding local ecosystems and the Los Angeles River, as well as passive open-space recreation uses, including a segment of the Los Angeles River Trail system linking to adjacent recreation areas and trails.

Furthermore, the following detailed analysis describes the extent to which the proposed project complies with or does not conflict with adopted plans and policies to reduce GHG emissions, including Executive Orders S-3-05 and B-30-15, the AB 32 *Climate Change Scoping Plan*, and SCAG's 2020–2045 RTP/SCS. As shown below, the proposed project would be consistent with and would not conflict with the applicable GHG reduction plans, policies and regulations.

Executive Orders S-3-05 and B-30-15. The Executive Orders established goals to reduce GHG emissions to 80 percent below 1990 levels by 2050. This goal has not been codified by the State Legislature and CARB has not adopted a strategy or regulations to meet the 2050 goal. However, studies have shown that in order to meet the 2050 goal, aggressive technologies in the transportation and energy sectors—including electrification and the decarbonization of fuel—will be required. In its original *Climate Change Scoping Plan*, CARB acknowledged that the "measures needed to meet the 2050 goal are too far in the future to define in detail."[81] In the *First Update to the Climate Change Scoping Plan*, CARB generally described the types of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts

[81]CARB, *Climate Change Scoping Plan*, December 2008, p. 117.

to deploy and scale markets for the cleanest technologies immediately."[82] The multifaceted approach broadly characterized in the *First Update to the Climate Change Scoping Plan* set the course for more robust strategies to follow in subsequent iterations.

The *2017 Scoping Plan* recognized that additional work is needed to achieve the more stringent GHG emissions reduction target for 2050:

> *"[w]hile the Scoping Plan charts the path to achieving the 2030 GHG emissions reduction target, we also need momentum to propel us to the 2050 statewide GHG target (80 percent below 1990 levels). In developing this Scoping Plan, we considered what policies are needed to meet our mid-term and long-term goals. For example, though Zero Net Carbon Buildings are not feasible at this time and more work needs to be done in this area, they will be necessary to achieve the 2050 target. To that end, work must begin now to review and evaluate research in this area, establish a planning horizon for targets, and identify implementation mechanisms."*[83]

CARB continues to develop the *Scoping Plan* as a map for achieving California's GHG emissions reduction targets that evolves with the contemporary knowledge base and available technologies that can be feasibly implemented at scale. The *2017 Scoping Plan* identifies the following considerations for various sectors that will need to reduce GHG emissions to meet the statewide targets:

- Energy Sector: Continued improvements in California's lighting, appliance, and building energy efficiency programs and initiatives, such as the State's building energy efficiency standards and zero net energy building goals, would serve to reduce the proposed project emissions level in the future.[84] Additionally, further technological improvements and additions to California's renewable resource portfolio would favorably influence the proposed project indirect emissions associated with electricity generation.[85]
- Transportation Sector: Anticipated deployment of vehicle fleets with enhanced fuel efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems will all serve to reduce the proposed project mobile source emissions in future years.[86]
- Water Sector: GHG emissions associated with water conveyance, treatment, and distribution for the proposed project will be reduced in the future as a result of further improvements in water conservation technologies, as well as expansion of the renewables portfolio.[87]
- Waste Management Sector: Plans to further expand recycling, reuse, and diversion of wastes away from landfills will beneficially reduce indirect GHG emissions from the proposed project.[88]

The assessment of GHG emissions for the proposed project thoroughly examined opportunities to feasibly determine consistency with the 2050 emissions reduction target. Due to the technological shifts required at the utility sector level and the unknown nature of parameters influenced by the contemporary regulatory framework between existing conditions and 2050, quantitatively analyzing

[82]CARB, *First Update to the Climate Change Scoping Plan*, May 2014.

[83]CARB, *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target*, November 2017.

[84]CARB, *First Update to the Climate Change Scoping Plan*, May 2014, pp. 37–39, 85.

[85]*Ibid*, p. 40-41.

[86]*Ibid*, p. 55-56.

[87]*Ibid,* p. 65.

[88]*Ibid*, p. 69.

the proposed project's impacts relative to the 2050 goal would be speculative for the purposes of satisfying the CEQA requirements. Statewide efforts are underway to facilitate the State's achievement of those goals and it is reasonable to expect the proposed project's emission level to decline as the regulatory initiatives identified by CARB in the *2017 Scoping Plan* are implemented, and as other technological innovations occur. Implementation of the proposed project would not interfere with regulatory actions under these Executive Orders that address the statewide 2050 target.

At the State level, Executive Orders S-3-05 and B-30-15 are orders from the State's executive Branch designed to reduce GHG emissions. The goal of Executive Order S-3-05 to reduce GHG emissions to 1990 levels by 2020 was adopted by the Legislature as the 2006 Global Warming Solutions Act (AB 32) and codified into law in HSC division 25.5. The goal of Executive Order B-30-15 to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030 was adopted by the Legislature in SB 32 and also codified into law in HSC Division 25.5. In support of HSC Division 25.5, the State has promulgated a robust framework of laws and strategies to reduce GHG emissions in the *Climate Change Scoping Plan*. Many of the emission reduction strategies recommend by CARB would serve to reduce the proposed project's post-2024 emissions level to the extent applicable by law. The proposed project's consistency with the *Climate Change Scoping Plan* is assessed below.

Climate Change Scoping Plan. As discussed above, the goal to reduce GHG emissions to 1990 levels by 2020 (Executive Order S-3-05) was codified by the Legislature as the 2006 Global Warming Solutions Act. In 2008, CARB approved a *Climate Change Scoping Plan* as required by Assembly Bill 32. The *Climate Change Scoping Plan* and subsequent updates in 2014 and 2017 contain a range of GHG reduction actions that include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an Assembly Bill 32 implementation fee to fund the program. **Table 3-7** provides an evaluation of whether the proposed project is consistent with or may conflict with applicable reduction actions/strategies by emissions source category. As evidenced by the elements described below, the proposed project would be consistent with the *Climate Change Scoping Plan* GHG Reduction Strategies and would not conflict with initiatives to reduce emissions.

TABLE 3-7: PROJECT CONSISTENCY WITH CLIMATE CHANGE SCOPING PLAN

Strategy	Proposed Project Consistency
2008 CLIMATE CHANGE SCOPING PLAN MEASURES	
California Light-Duty Vehicle GHG Standards. Implement adopted Pavley standards and planned second phase of program. Align zero-emission vehicle, alternative and renewable fuel, and vehicle technology initiatives with long-term climate change goals.	**No Conflict.** The implementation of Pavley vehicle standards is managed at the State level and applies to vehicle and engine manufacturers. The proposed project would not conflict with vehicle emissions standards and would include EV charging stations in compliance with LADBS EVCS requirements.

TABLE 3-7: PROJECT CONSISTENCY WITH CLIMATE CHANGE SCOPING PLAN

Strategy	Proposed Project Consistency
Energy Efficiency. Maximize energy efficiency building and appliance standards and pursue additional efficiency efforts including new technologies, and new policy and mechanisms.	**No Conflict**. The proposed project would be designed and constructed to meet 2019 Title 24 standards. The facility would also be designed to meet Mayor Garcetti's Resilience by Design Directive by obtaining LEED gold certification, with the objective to achieve LEED Platinum certification and Envision Sustainable Infrastructure certification. The facility would also include a green roof, which would be covered with vegetation to reduce heat and capture stormwater. The facility would have a photovoltaic array on the roof tops of the building. It would also include an internal landscaped courtyard and green roof to conserve water through stormwater capture and treatment. Implementation of the proposed project would not require new energy infrastructure and would not place an undue burden on existing resource availability. Project electricity would be supplied by LADWP, which is required to achieve 40 percent RPS by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030 under SB 100.
Renewables Portfolio Standard: Achieve 33 percent renewable energy mix statewide by 2020 from the current level of 12 percent in 2008.	**No Conflict**. LADWP would supply energy to the proposed project site. The LADWP's portfolio consists of approximately 32 percent renewable energy in 2018 and plans to increase its amount of renewable energy to 35 percent by 2020 and 44 percent by the end of 2024. Thus, LADWP is on track to meet and exceed the RPS goals established in the *Climate Change Scoping Plan*. Additionally, the proposed project would have a photovoltaic array on the roof tops of the building to supply on-site renewable energy and reduce demand.
Low-Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard.	**No Conflict.** The proposed project would not conflict with implementation of the transportation fuel standards. Future users of the proposed project would utilize fuels available to the public through commercial sellers, which would be regulated by the Low Carbon Fuel Standard administered by CARB.
Vehicle Efficiency Measures. Implement light-duty vehicle efficiency measures.	**No Conflict.** Only CARB has the authority to promulgate and enforce light-duty vehicle efficiency measures. The proposed project would not interfere with implementation of light-duty vehicle efficiency measures and vehicles associated with the proposed project that are subject to the regulations would comply with these measures.
Medium/Heavy-Duty Vehicle Standards. Adopt medium- and heavy-duty vehicle efficiency measures.	**No Conflict.** Only CARB has the authority to promulgate and enforce medium- and heavy-duty vehicle efficiency measures. The proposed project would not interfere with implementation of vehicle efficiency measures and vehicles associated with the proposed project that are subject to the regulations would comply with these measures.

TABLE 3-7: PROJECT CONSISTENCY WITH CLIMATE CHANGE SCOPING PLAN	
Strategy	**Proposed Project Consistency**
Green Building Strategy: Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	**No Conflict**. The proposed project would be designed and constructed to meet 2019 Title 24 standards. The facility would also be designed to meet Mayor Garcetti's Resilience by Design Directive by obtaining LEED gold certification, with the objective to achieve LEED Platinum certification and Envision Sustainable Infrastructure certification. The facility would also include a green roof, which would be covered with vegetation to reduce heat and capture stormwater. The facility would have a photovoltaic array on the roof tops of the building. It would also include an internal landscaped courtyard and green roof to conserve water through stormwater capture and treatment. The building would achieve energy efficiency by implementing strategies including building orientation, high-performance building envelope, and effective daylighting complemented by high performance lighting and high efficiency HVAC systems.
High GWP Gases Emissions. Adopt measures to reduce emissions of high GWP gases.	**No Conflict.** Implementation of the proposed project would not introduce a new source of high GWP gases to the area, and vehicles and consumer products associated with the proposed project would be subject to CARB regulations.
Recycling and Waste: Reduce methane emissions at landfills. Increase waste diversion, composting and other beneficial uses of organic materials and mandate commercial recycling. Move toward zero waste.	**No Conflict**. Waste associated with the proposed project would be received and managed by the City Bureau of Sanitation. The City has committed to an extensive waste recycling program through the *Sustainable City pLAn*.
Water: Continue efficiency programs and use cleaner energy sources to move and treat water.	**No Conflict**. The conceptual design for the WQL incorporates best management practices and high-performance strategies in several of the major Sustainable City pLAn target areas. The facility would have a photovoltaic array on the roof tops of the building. It would also include an internal landscaped courtyard and green roof to conserve water through stormwater capture and treatment. Recycled water from LAGWRP would provide irrigation water for the proposed project landscaping, which would be drought-tolerant in the types and use of plant material. All plumbing features would comply with provisions of the LAGBC.
2017 CLIMATE CHANGE SCOPING PLAN MEASURES	
Mobile Source Strategy – Advanced Clean Cars. Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations (through model year 2025).	**No Conflict.** Light-duty vehicle standards are administered and enforced by CARB. Vehicles associated with the proposed project that are subject to the regulations would be required to comply.
Mobile Source Strategy – Zero Emission Fleet. Achieve a statewide vehicle fleet of at least 1.5 million zero-emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero-emission vehicles (ZEV) by 2030.	**No Conflict.** Implementation of zero-emission and plug-in vehicles is administered and enforced by CARB in coordination with automobile manufacturers. Vehicles that access the proposed project site would be part of the statewide fleet and those vehicles that are subject to the regulations would comply. Furthermore, the proposed project would provide EV parking spaces and charging infrastructure in accordance with the CALGreen code and LAGBC.

TABLE 3-7: PROJECT CONSISTENCY WITH CLIMATE CHANGE SCOPING PLAN	
Strategy	**Proposed Project Consistency**
Mobile Source Strategy – Innovative Clean Transit. Transition to a suite of innovative clean transit options; CARB Scoping Plan Scenario assumed 20 percent of new urban buses purchased beginning in 2018 will be zero-emission buses with the proliferation of zero-emission technology expanded to 100 percent of new sales by 2030. Additionally, new natural gas buses (in 2018) and new diesel buses (in 2020) shall meet the optional heavy-duty low-NO_X standard.	**No Conflict.** The clean transit fleet regulations are promulgated and enforced by CARB. The proposed project would not interfere with implementation of a zero-emission bus fleet.
Mobile Source Strategy – Last Mile Delivery. New regulation that would result in the use of low NO_X or cleaner engines and the deployment of increasing numbers of zero-emission trucks, primarily for Class 3–7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	**No Conflict.** The enhanced regulations pertaining to last mile delivery trucks are administered and enforced by CARB. The proposed project would not interfere with implementation of new truck fleets meeting more stringent NO_X standards.
Mobile Source Strategy – Reduction in VMT. Further reduce VMT through continued implementation of SB 375 and regional SCSs; forthcoming statewide implementation of SB 743; explore additional VMT reduction strategies.	**No Conflict.** The proposed project represents an infill development project within an existing urbanized area that would concentrate multiple LADWP facilities in one location. The proposed project would also provide active transportation options. Surrounding the reservoir garden and extending into other portions of the HWSG property would be a series of pedestrian, bicycle, and equestrian pathways, which would interconnect with Griffith Park and the existing river trail system.
Implement SB 350 by 2030 – Renewables. Increase the RPS to 50 percent of retail sales by 2030 and ensure grid reliability.	**No Conflict.** The proposed project would use electricity from the LADWP, which has committed to diversify its portfolio of energy sources to achieve 50 percent renewables by 2030. The proposed project would not interfere with LADWP's ability to procure additional renewable resources and expand its renewable infrastructure. Furthermore, the proposed project would implement solar installations to generate on-site renewable electricity and reduce demand on the LADWP grid.
Implement SB 350 by 2030 – Efficiency Targets. Establish annual targets for statewide energy efficiency savings and demand reductions that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	**No Conflict.** The proposed project would be designed and constructed in accordance with provisions of the CALGreen Code and LAGBC for renovation and new construction and will implement an array of measures designed to reduce energy consumption, including high efficiency lighting, meeting or exceeding the 2019 Title 24 energy efficiency standards, and on-site installation of renewable energy facilities.
2022 SCOPING PLAN OBJECTIVES	
GHG Emissions Reductions Relative to SB 32 Target. Reduce statewide GHG emissions to 40 percent below 1990 levels by 2030.	**No Conflict.** The proposed project would use electricity from the LADWP, which has committed to diversify its portfolio of energy sources to achieve 50 percent renewables by 2030. Additionally, the proposed project will increase urban green space and will provide community education on DPR technologies that will reduce statewide dependence on non-renewable potable water resources.
Smart Growth/VMT. Reduce VMT per capita to 25 percent below 2019 levels by 2030, and 30 percent below 2019 levels by 2045.	**No Conflict.** The proposed project would not interfere with regional planning initiatives to reduce VMT per capita. The proposed project would not increase LADWP employee VMT per capita relative to existing commuting patterns.

TABLE 3-7: PROJECT CONSISTENCY WITH CLIMATE CHANGE SCOPING PLAN

Strategy	Proposed Project Consistency
Light-duty Vehicle (LDV) Zero Emission Vehicles. By 2035, 100 percent of new LDV sales will be ZEVs.	**No Conflict.** The proposed project would not interfere with vehicle manufacturing and sales transitioning to exclusively ZEVs by 2035.
Truck ZEVs. By 2040, 100 percent of medium-duty and heavy-duty sales shall be ZEVs.	**No Conflict.** The proposed project would not interfere with truck manufacturing and sales transitioning to exclusively ZEVs by 2040.
Electricity Generation. Reduce statewide electricity generation sector emissions to 38 $MMTCO_2e$ by 2030 and to 30 $MMTCO_2e$ by 2035.	**No Conflict.** The proposed project would use electricity from the LADWP, which has committed to diversify its portfolio of energy sources to achieve 50 percent renewables by 2030. Additionally, the proposed project will increase urban green space and will provide community education on DPR technologies that will reduce statewide dependence on non-renewable potable water resources.

SOURCE: CARB, *Climate Change Scoping Plan*, 2008; CARB, *California's 2017 Climate Change Scoping Plan*, November 2017; CARB, *2022 Scoping Plan for Achieving Carbon Neutrality*, December 2022; TAHA, 2024.

Furthermore, in addition to the proposed project's consistency with applicable GHG reduction regulations and strategies, the proposed project would not conflict with the future anticipated statewide GHG reduction goals. CARB has evaluated a number of potential strategies for achieving the 2030 reduction target of 40 percent below 1990 levels, as mandated by SB 32. These potential strategies include renewable resources constituting half of the State's electricity generation by 2030, increasing the fuel economy of vehicles and the number of zero-emission and hybrid vehicles, reducing the rate of growth in VMT, supporting high-speed rail and other alternative transportation options, and use of high-efficiency appliances, water heaters, and HVAC systems.[89]

The proposed project would be consistent with applicable GHG reduction strategies outlined in the *2008*, *2017, and 2022 Scoping Plans*. The proposed project would incorporate design features to comply with CALGreen and the LAGBC that would reduce energy demands, including high efficiency lighting features, low flow plumbing fixtures, Energy Star appliances, energy efficient windows and building envelope designs, sustainable construction materials, drought tolerant landscaping and water-conserving irrigation systems, and the provision of EV parking spaces and EV-ready installations. The proposed project would also feature on-site renewable energy facilities through the installation of photovoltaic solar panels. Vehicles associated with the proposed project would be subject to applicable CARB regulations such as the Low Carbon Fuel Standard and enhanced fuel efficiency regulations. While CARB is in the process of expanding the regulatory framework to meet the 2030 reduction target based on the existing laws and strategies in the *Scoping Plans*, the proposed project would not interfere with implementation of any further GHG reduction strategies identified by CARB.

Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The California legislature passed SB 375 to connect regional transportation planning to land use decisions made at a local level by integrating land use planning with the goal of reducing VMT for cars and light duty trucks. SB 375 requires the metropolitan planning organizations to prepare an SCS in their regional transportation plans to achieve the regional per capita GHG reduction targets established by CARB. Under SB 375, the primary goal of the RTP/SCS is to provide a framework for future growth that will decrease per capita GHG emissions from cars and light-duty trucks.

[89] Energy+Environmental Economics, *Summary of the California State Agencies' PATHWAYS Project: Long-term Greenhouse Gas Reduction Strategies*, April 6, 2015.

In March 2018, CARB updated the SB 375 targets for the SCAG region to require a per capita passenger vehicle GHG emissions reduction of 8 percent by 2020 and 19 percent by 2035 compared to baseline (2005) GHG emissions.[90] For the SCAG region, the most recent SCS is contained in *Connect SoCal*, SCAG's 2020–2045 RTP/SCS that was formally adopted by the SCAG Regional Council on September 3, 2020 after receiving transportation conformity verification from the Federal Highway Administration on June 5, 2020.[91,92] Connect SoCal was developed in collaboration with CARB and set regional GHG emission reduction targets for on-road automobiles and light duty trucks of eight percent by 2020 and 19 percent by 2035 relative to 2005 emissions levels, consistent with the SB 375 targets. On October 30, 2020, CARB issued *Executive Order G-20-239* confirming that the *Connect SoCal* RTP/SCS satisfied the requirements of SB 375 and approving the GHG quantification method, thereby validating that *Connect SoCal* would achieve the required regional reduction targets established in 2018 for cars and light duty trucks.

In addition to demonstrating the region's ability to attain the regional GHG emission reduction targets, *Connect SoCal* outlines a Core Vision focused on maintaining and enhancing management of the transportation network while also expanding mobility choices by creating hubs that connect housing, jobs, and transit accessibility. *Connect SoCal* is rooted in the themes established in the 2008 and 2012 RTP/SCS plans and builds upon the framework of the 2016–2040 RTP/SCS with a robust array of initiatives and strategies for integrating the transportation network with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. Connect SoCal prioritizes the majority of new housing and job growth HQTAs and other opportunity areas on existing main streets, in downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. Thus, successful implementation of *Connect SoCal* would result in more complete neighborhoods with a variety of transportation and housing choices suited to the needs of the community, while reducing automobile use. With regard to individual land use developments, proposed project consistency with strategies and policies set forth in *Connect SoCal* can generally be evaluated through consistency with the integrated growth forecast, consistency with VMT reduction strategies and policies, consistency with increased use of alternative fueled vehicles, and consistency with enhanced energy efficiency. The proposed project is assessed in the context of these fundamental strategies below.

Consistency with the Integrated Growth Forecast

The *Connect SoCal* RTP/SCS provides socioeconomic forecast projections of regional growth in population, housing, and employment. The growth forecasts, which are adopted by SCAG's Regional Council as part of the RTP/SCS, are based on the local plans and policies applicable to the specific area and are established at the municipality level. SCAG relies on the subregional growth projections in all phases of implementation and review. Implementation of the proposed project would not significantly increase regional population, housing, or employment in the long term. Therefore, the proposed project would not render assumptions of the integrated growth forecast to be invalid.

Consistency with VMT Reduction Strategies and Policies

A detailed VMT analysis was completed for the proposed project.[93] The City's guidelines state that public services (e.g., police, fire stations, public utilities, public parks) do not generally generate substantial VMT. Instead, these land uses are often built-in response to development from other land uses (e.g., office and residential). Therefore, these land uses can be presumed to have less-than-

[90] CARB, *SB 375 Regional Greenhouse Gas Emissions Reduction Targets*, March 2018.

[91] SCAG, *News Release: SCAG Regional Council formally adopts Connect SoCal*, September 3, 2020.

[92] FHWA, *Southern California Association of Governments Connect SoCal Regional Transportation Plan/Sustainable Communities Strategy, 2019 Federal Transportation Improvement Program Amendment No. 19-12 and associated conformity determination*, June 5, 2020.

[93] Translutions, *Headworks-VMT Memorandum*, June 13, 2022.

significant impacts on VMT. The proposed project includes a public park and a drinking water treatment facility, which are public services that are presumed to have a less than significant VMT impact. Therefore, these components of the project are screened out from analysis. The WQL, although an LADWP function, would not meet the definition of a public service since it would serve as a laboratory and administrative facility that would generate daily employee trips in excess of the VMT daily threshold. Therefore, the WQL is subject to a VMT analysis.

In order to evaluate the VMT per employee for the WQL, the net change per employee was calculated. The proposed project will replace the Pasadena and Rinaldi facilities. For this evaluation, the net VMT for the project was calculated by subtracting the total VMT per employee for the Pasadena and Rinaldi facilities from the VMT for the proposed project. The VMT per employee for employees that are expected to transfer to the WQL from LADWP facilities in downtown Los Angeles were not subtracted because it is anticipated that those positions would be backfilled at the current locations in the future, unlike the positions in Pasadena and Rinaldi. The Pasadena facility is in Traffic Analysis Zone (TAZ) 22121400 of the SCAG RTP Model. The VMT per employee for the TAZ is 16.3 miles per employee. The Rinaldi facility is included in the City of Los Angeles VMT Calculator, which shows a VMT per employee of 14.1 miles per employee. The VMT/Employee for the proposed project site is 12.4 miles/employee based on the VMT Calculator.

The total VMT for existing and proposed facilities were calculated by multiplying the VMT per employee for the existing and proposed facilities. The reduction of 62 employees at the Pasadena location will result in a VMT reduction of 1,011 miles, and that of the Rinaldi facility will result in a reduction of 71 miles. The VMT for the proposed project is anticipated to be 2,133 miles for 172 employees. The net change in VMT is 1,051 miles, which results in a net VMT of 6.11 miles per employee. The proposed project is located in the Central Area Planning Commission (APC), which has a VMT Impact Criteria (15 percent below APC Average) of 7.6 miles per employee. The proposed project results in less than significant impacts as the VMT per employee would be less than the average for the Central APC.

Consistency with Energy Efficiency Strategies and Policies

Connect SoCal also addresses strategies to improve energy efficiency as a method of reducing GHG emissions. The proposed project would reduce reliance on available groundwater resources and would provide supplemental recycled water resources to the LADWP service area. The WQL facility would also be designed to meet Mayor Garcetti's Resilience by Design Directive by obtaining LEED gold certification, with the objective to achieve LEED Platinum certification and Envision Sustainable Infrastructure certification. The facility would also include a green roof, which would be covered with vegetation to reduce heat and capture stormwater.

Consistency with Land Use Characteristics

The ultimate goal of the SCS component of *Connect SoCal* is to achieve the regional per capita GHG reduction targets for passenger vehicles and light duty trucks established by CARB pursuant to SB 375. *Connect SoCal* builds upon and expands land use and transportation strategies established over several prior planning cycles to increase mobility options and achieve a more sustainable growth pattern. *Connect SoCal* includes strategies and tools consistent with local jurisdictions' land use policies that incorporate best practices for achieving the state-mandated reductions in GHG emissions at the regional level through reduced VMT. The proposed project would be consistent with the following land use strategies that were developed to support the SCS: Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations; Focus on a regional jobs/housing balance to reduce commute times and distances; and Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods.

Sustainable City pLAn. Although it was not developed and adopted primarily as a GHG emissions reduction plan, the *Sustainable City pLAn 2019 (L.A.'s Green New Deal)* sets ambitious local goals for reducing GHG emissions and embraces a multifaceted, robust approach to achieve the stated objectives. Targets identified in *L.A.'s Green New Deal* that are most relevant to the proposed project are presented in **Table 3-8**, with corresponding discussions for the consistency of the proposed project. The proposed project would not conflict with local plans to reduce GHG emissions and would feature design elements that improve energy efficiency and mobility. Impacts related to conflicting with local planning initiatives to reduce GHG emissions would be less than significant.

Mitigation Measures

Impacts would be less than significant; no mitigation measures are required.

3.5 CUMULATVE IMPACTS

The primary focus of many of the statewide and regional plans, policies, and regulations is to address issues related to global climate change. Due to the complex physical and chemical mechanisms involved in how GHG emissions influence climate change at the global scale, there is no contextual basis for determining the extent to which the proposed project's net increase in GHG emissions would affect climate patterns. The emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG emissions from more than one project and many sources in the atmosphere that may result in global climate change. The consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be miniscule in comparison to State or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

Pursuant to CEQA Guidelines Section 15064(h)(3) a project's incremental contribution to cumulative impacts can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem with the geographic area of the project. The State has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce is predicted to continue to expand. AB 32 has acknowledged that GHG emissions are a statewide impact. Emissions generated by the proposed project in combination with past, present, and reasonably probable future related projects could contribute to this impact. The CEQA Guidelines emphasize that the effects of GHG emissions are cumulative in nature and should be analyzed in the context of CEQA's existing cumulative impacts analysis. The Office of Planning and Research acknowledges that although climate change is cumulative in nature, not every individual proposed project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment. As discussed above, the proposed project's incremental contribution to the statewide cumulative impact would not be cumulatively considerable.

TABLE 3-8: PROJECT CONSISTENCY WITH LOCAL PLAN TARGETS

Target/Strategy	Project Consistency
Renewable Energy: • LADWP will supply 55 percent renewable energy by 2025, 80 percent by 2036, and 100 percent by 2045.	**No Conflict.** Implementation of the proposed project would not interfere with LADWP's agreement with the City to rely on 55 percent renewable energy by 2025, 80 percent renewable energy by 2036, and 100 percent renewable energy by 2045. Implementation of the proposed project would not require the acquisition or development of addition energy resources or infrastructure that would obstruct attainment of the target renewable portfolio standard set by L.A.'s Green New Deal.
Local Water: • Source 70 percent of L.A.'s water locally and capture 150,000-acre ft per year of stormwater by 2035. • Reduce potable water use per capita by 22.5 percent by 2025 and 25 percent by 2035 and maintain or reduce 2035 per capita water use through 2050.	**No Conflict.** Implementation of the proposed project would not interfere with the City's initiatives to expand its stormwater capture capabilities by 2035. Proposed project development would not result in a change of land use that would inhibit the expansion of stormwater infrastructure in the future. Implementation of the proposed project would also not conflict with the per capita potable water use targets, as design of the proposed project would comply with the Los Angeles Green Building Code and all provisions related to reducing end use contained therein.
Clean and Healthy Buildings: • All new buildings will be net zero carbon by 2030; and 100 percent of buildings will be net zero carbon by 2050. • Reduce average building energy use per square foot. for all building types by 22 percent by 2025, 34 percent by 2035, and 44 percent by 2050.	**No Conflict.** The proposed project would be designed and constructed to meet 2019 Title 24 standards and the LAGBC standards designed to reduce energy consumption, as well as provide on-site renewable energy. Implementation of the proposed project would not require new energy infrastructure and would not place an undue burden on existing resource availability. Project electricity would be supplied by LADWP, which is required to achieve 40 percent RPS by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030 under SB 100.
Housing and Development • Increase cumulative new housing unit construction to 150,000 by 2025 and 275,000 units by 2035. • Ensure 57 percent of new housing units are built within 1,500 feet of transit by 2025, and 75 percent by 2035. • Create or preserve 50,000 income-restricted affordable housing units by 2035 and increase stability for renters.	**No Conflict.** The proposed project does include housing.
Mobility and Public Transit • Increase the percentage of all trips made by walking, biking, micro-mobility/matched rides or transit to at least 35 percent by 2025, 50 percent by 2035 and maintaining at least 50 percent to 2050. • Reduce VMT per capita by at least 13 percent by 2025, 39 percent by 2035, and 45 percent by 2050.	**No Conflict.** As previously discussed, the proposed project would not result in a significant impact related to VMT. Therefore, the Project would not interfere with the City achieving these targets.
Zero Emission Vehicles • Increase the percentage of electric and zero emission vehicles in the City to 25 percent by 2025, 80 percent by 2035, and 100 percent by 2050	**No Conflict.** Implementation of the proposed project would provide electric vehicle charging stations consistent with City regulations and would not interfere with Sustainable City pLAn targets.

SOURCE: CAPCOA, 2010 (Applicable Strategies Only); TAHA, 2024.

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APPENDIX

CalEEMod Files

- Headworks Park Construction Detailed Report
- Headworks Water Quality Lab Construction Detailed Report
- Headworks DPR Demonstration Facility Detailed Report
- Headworks Project Operations Detailed Report

LADWP Headworks Project - Park Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LADWP Headworks Project - Park Construction
Construction Start Date	11/14/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	20.2
Location	34.153231832974924, -118.31594338641173
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3974
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
Parking Lot	3.00	Acre	3.00	0.00	13,000	13,000	—	Parking lot and paved access roads.

City Park	17.5	Acre	17.5	0.00	387,830	387,830	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-4*	Use Local and Sustainable Building Materials

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	39.4	60.8	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	11,049	11,049	0.46	0.25	10.5	11,136
Mit.	4.79	39.4	60.8	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	11,049	11,049	0.46	0.25	10.5	11,136
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	39.5	59.7	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	10,970	10,970	0.46	0.25	0.27	11,050
Mit.	4.79	39.5	59.7	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	10,970	10,970	0.46	0.25	0.27	11,050
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	2.52	18.8	32.6	0.05	0.78	7.60	8.38	0.72	0.97	1.69	—	6,339	6,339	0.27	0.17	3.00	6,400
Mit.	2.52	18.8	32.6	0.05	0.78	7.60	8.38	0.72	0.97	1.69	—	6,339	6,339	0.27	0.17	3.00	6,400
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.46	3.44	5.96	0.01	0.14	1.39	1.53	0.13	0.18	0.31	—	1,049	1,049	0.04	0.03	0.50	1,060
Mit.	0.46	3.44	5.96	0.01	0.14	1.39	1.53	0.13	0.18	0.31	—	1,049	1,049	0.04	0.03	0.50	1,060
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.79	39.4	60.8	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	11,049	11,049	0.46	0.25	10.5	11,136

2026	1.59	11.5	22.3	0.03	0.45	10.6	11.1	0.41	1.26	1.66	—	4,222	4,222	0.18	0.14	5.76	4,273
2027	1.52	10.8	21.8	0.03	0.40	10.6	11.0	0.36	1.26	1.62	—	4,187	4,187	0.18	0.13	5.24	4,237
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.67	14.2	21.8	0.03	0.47	4.38	4.86	0.44	0.57	1.01	—	4,351	4,351	0.19	0.14	0.13	4,396
2025	4.79	39.5	59.7	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	10,970	10,970	0.46	0.25	0.27	11,050
2026	2.87	20.1	39.9	0.05	0.83	11.7	12.5	0.76	1.49	2.25	—	8,098	8,098	0.34	0.25	0.25	8,181
2027	1.51	11.0	20.9	0.03	0.40	10.6	11.0	0.36	1.26	1.62	—	4,119	4,119	0.14	0.13	0.14	4,162
2028	1.45	10.4	20.6	0.03	0.35	10.6	11.0	0.32	1.26	1.58	—	4,087	4,087	0.13	0.13	0.12	4,130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.16	1.34	2.07	< 0.005	0.04	0.39	0.44	0.04	0.05	0.09	—	410	410	0.02	0.01	0.20	414
2025	2.52	18.8	32.6	0.05	0.78	7.60	8.38	0.72	0.97	1.69	—	6,339	6,339	0.27	0.17	3.00	6,400
2026	1.15	8.40	15.7	0.02	0.32	7.23	7.56	0.30	0.86	1.16	—	3,033	3,033	0.13	0.10	1.80	3,068
2027	1.08	7.82	15.1	0.02	0.28	7.22	7.50	0.26	0.86	1.12	—	2,955	2,955	0.10	0.10	1.61	2,988
2028	0.13	0.96	1.92	< 0.005	0.03	0.93	0.96	0.03	0.11	0.14	—	378	378	0.01	0.01	0.19	382
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.03	0.24	0.38	< 0.005	0.01	0.07	0.08	0.01	0.01	0.02	—	67.9	67.9	< 0.005	< 0.005	0.03	68.6
2025	0.46	3.44	5.96	0.01	0.14	1.39	1.53	0.13	0.18	0.31	—	1,049	1,049	0.04	0.03	0.50	1,060
2026	0.21	1.53	2.87	< 0.005	0.06	1.32	1.38	0.05	0.16	0.21	—	502	502	0.02	0.02	0.30	508
2027	0.20	1.43	2.76	< 0.005	0.05	1.32	1.37	0.05	0.16	0.20	—	489	489	0.02	0.02	0.27	495
2028	0.02	0.17	0.35	< 0.005	0.01	0.17	0.18	0.01	0.02	0.03	—	62.5	62.5	< 0.005	< 0.005	0.03	63.2

2.3. Construction Emissions by Year, Mitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.79	39.4	60.8	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	11,049	11,049	0.46	0.25	10.5	11,136
2026	1.59	11.5	22.3	0.03	0.45	10.6	11.1	0.41	1.26	1.66	—	4,222	4,222	0.18	0.14	5.76	4,273
2027	1.52	10.8	21.8	0.03	0.40	10.6	11.0	0.36	1.26	1.62	—	4,187	4,187	0.18	0.13	5.24	4,237
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.67	14.2	21.8	0.03	0.47	4.38	4.86	0.44	0.57	1.01	—	4,351	4,351	0.19	0.14	0.13	4,396
2025	4.79	39.5	59.7	0.09	1.53	11.7	12.7	1.41	1.49	2.59	—	10,970	10,970	0.46	0.25	0.27	11,050
2026	2.87	20.1	39.9	0.05	0.83	11.7	12.5	0.76	1.49	2.25	—	8,098	8,098	0.34	0.25	0.25	8,181
2027	1.51	11.0	20.9	0.03	0.40	10.6	11.0	0.36	1.26	1.62	—	4,119	4,119	0.14	0.13	0.14	4,162
2028	1.45	10.4	20.6	0.03	0.35	10.6	11.0	0.32	1.26	1.58	—	4,087	4,087	0.13	0.13	0.12	4,130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.16	1.34	2.07	< 0.005	0.04	0.39	0.44	0.04	0.05	0.09	—	410	410	0.02	0.01	0.20	414
2025	2.52	18.8	32.6	0.05	0.78	7.60	8.38	0.72	0.97	1.69	—	6,339	6,339	0.27	0.17	3.00	6,400
2026	1.15	8.40	15.7	0.02	0.32	7.23	7.56	0.30	0.86	1.16	—	3,033	3,033	0.13	0.10	1.80	3,068
2027	1.08	7.82	15.1	0.02	0.28	7.22	7.50	0.26	0.86	1.12	—	2,955	2,955	0.10	0.10	1.61	2,988
2028	0.13	0.96	1.92	< 0.005	0.03	0.93	0.96	0.03	0.11	0.14	—	378	378	0.01	0.01	0.19	382
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.03	0.24	0.38	< 0.005	0.01	0.07	0.08	0.01	0.01	0.02	—	67.9	67.9	< 0.005	< 0.005	0.03	68.6
2025	0.46	3.44	5.96	0.01	0.14	1.39	1.53	0.13	0.18	0.31	—	1,049	1,049	0.04	0.03	0.50	1,060
2026	0.21	1.53	2.87	< 0.005	0.06	1.32	1.38	0.05	0.16	0.21	—	502	502	0.02	0.02	0.30	508
2027	0.20	1.43	2.76	< 0.005	0.05	1.32	1.37	0.05	0.16	0.20	—	489	489	0.02	0.02	0.27	495
2028	0.02	0.17	0.35	< 0.005	0.01	0.17	0.18	0.01	0.02	0.03	—	62.5	62.5	< 0.005	< 0.005	0.03	63.2

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.37	13.2	17.4	0.03	0.47	—	0.47	0.43	—	0.43	—	2,965	2,965	0.12	0.02	—	2,975
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.09	0.05	< 0.005	< 0.005	3.42	3.42	< 0.005	0.34	0.34	—	53.3	53.3	< 0.005	0.01	< 0.005	55.6
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.24	1.64	< 0.005	0.04	—	0.04	0.04	—	0.04	—	279	279	0.01	< 0.005	—	279
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.30	0.30	< 0.005	0.03	0.03	—	5.00	5.00	< 0.005	< 0.005	0.01	5.22
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.23	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.1	46.1	< 0.005	< 0.005	—	46.3

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.86
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.36	4.08	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	856	856	0.04	0.03	0.09	867
Vendor	0.01	0.24	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	194	194	0.01	0.03	0.01	202
Hauling	0.01	0.37	0.14	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	282	282	0.02	0.05	0.02	296
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.40	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.6	81.6	< 0.005	< 0.005	0.14	82.8
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	18.2	18.2	< 0.005	< 0.005	0.02	19.0
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.5	26.5	< 0.005	< 0.005	0.03	27.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.01	3.01	< 0.005	< 0.005	< 0.005	3.14
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.39	4.39	< 0.005	< 0.005	< 0.005	4.61

3.2. Site Preparation (2024) - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.37	13.2	17.4	0.03	0.47	—	0.47	0.43	—	0.43	—	2,965	2,965	0.12	0.02	—	2,975
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.09	0.05	< 0.005	< 0.005	3.42	3.42	< 0.005	0.34	0.34	—	53.3	53.3	< 0.005	0.01	< 0.005	55.6
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.24	1.64	< 0.005	0.04	—	0.04	0.04	—	0.04	—	279	279	0.01	< 0.005	—	279
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.30	0.30	< 0.005	0.03	0.03	—	5.00	5.00	< 0.005	< 0.005	0.01	5.22
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.23	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.1	46.1	< 0.005	< 0.005	—	46.3
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.86
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.36	4.08	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	856	856	0.04	0.03	0.09	867
Vendor	0.01	0.24	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	194	194	0.01	0.03	0.01	202
Hauling	0.01	0.37	0.14	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	282	282	0.02	0.05	0.02	296
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.40	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.6	81.6	< 0.005	< 0.005	0.14	82.8
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	18.2	18.2	< 0.005	< 0.005	0.02	19.0
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.5	26.5	< 0.005	< 0.005	0.03	27.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.01	3.01	< 0.005	< 0.005	< 0.005	3.14
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.39	4.39	< 0.005	< 0.005	< 0.005	4.61

3.3. Site Preparation (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	12.3	17.3	0.03	0.40	—	0.40	0.37	—	0.37	—	2,965	2,965	0.12	0.02	—	2,975

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	3.42	3.42	< 0.005	0.34	0.34	—	52.4	52.4	< 0.005	0.01	< 0.005	54.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.80	5.80	< 0.005	< 0.005	—	5.82
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.96	0.96	< 0.005	< 0.005	—	0.96
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.31	3.78	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	839	839	0.04	0.03	0.08	849
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	190	190	0.01	0.03	0.01	199
Hauling	< 0.005	0.35	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	291

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.69
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.39
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09

3.4. Site Preparation (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	12.3	17.3	0.03	0.40	—	0.40	0.37	—	0.37	—	2,965	2,965	0.12	0.02	—	2,975
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	3.42	3.42	< 0.005	0.34	0.34	—	52.4	52.4	< 0.005	0.01	< 0.005	54.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.80	5.80	< 0.005	< 0.005	—	5.82

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.96	0.96	< 0.005	< 0.005	—	0.96
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.31	3.78	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	839	839	0.04	0.03	0.08	849
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	190	190	0.01	0.03	0.01	199
Hauling	< 0.005	0.35	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.69
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.39
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09

3.5. Grading (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	38.1	52.8	0.09	1.52	—	1.52	1.40	—	1.40	—	8,816	8,816	0.36	0.07	—	8,846
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.01	0.18	0.10	< 0.005	< 0.005	7.70	7.70	< 0.005	0.77	0.77	—	118	118	0.01	0.02	0.31	123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	38.1	52.8	0.09	1.52	—	1.52	1.40	—	1.40	—	8,816	8,816	0.36	0.07	—	8,846
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.01	0.19	0.11	< 0.005	< 0.005	7.70	7.70	< 0.005	0.77	0.77	—	118	118	0.01	0.02	0.01	123
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	6.78	9.40	0.02	0.27	—	0.27	0.25	—	0.25	—	1,570	1,570	0.06	0.01	—	1,575

Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.03	0.02	< 0.005	< 0.005	1.30	1.30	< 0.005	0.13	0.13	—	21.0	21.0	< 0.005	< 0.005	0.02	21.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.24	1.71	< 0.005	0.05	—	0.05	0.05	—	0.05	—	260	260	0.01	< 0.005	—	261
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	3.47	3.47	< 0.005	< 0.005	< 0.005	3.63
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.48	7.65	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,521	1,521	0.06	0.05	5.57	1,544
Vendor	0.01	0.36	0.18	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	317	317	0.01	0.04	0.87	332
Hauling	< 0.005	0.34	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.64	291
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.53	6.49	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,442	1,442	0.07	0.05	0.14	1,460
Vendor	0.01	0.38	0.18	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	317	317	0.01	0.04	0.02	331
Hauling	< 0.005	0.35	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.10	1.21	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	261	261	0.01	0.01	0.43	264
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	56.5	56.5	< 0.005	0.01	0.07	59.0
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.4	49.4	< 0.005	0.01	0.05	51.8

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	43.1	43.1	< 0.005	< 0.005	0.07	43.7
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.36	9.36	< 0.005	< 0.005	0.01	9.77
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.17	8.17	< 0.005	< 0.005	0.01	8.57

3.6. Grading (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	38.1	52.8	0.09	1.52	—	1.52	1.40	—	1.40	—	8,816	8,816	0.36	0.07	—	8,846
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.01	0.18	0.10	< 0.005	< 0.005	7.70	7.70	< 0.005	0.77	0.77	—	118	118	0.01	0.02	0.31	123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.30	38.1	52.8	0.09	1.52	—	1.52	1.40	—	1.40	—	8,816	8,816	0.36	0.07	—	8,846
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.01	0.19	0.11	< 0.005	< 0.005	7.70	7.70	< 0.005	0.77	0.77	—	118	118	0.01	0.02	0.01	123
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.77	6.78	9.40	0.02	0.27	—	0.27	0.25	—	0.25	—	1,570	1,570	0.06	0.01	—	1,575
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.03	0.02	< 0.005	< 0.005	1.30	1.30	< 0.005	0.13	0.13	—	21.0	21.0	< 0.005	< 0.005	0.02	21.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.24	1.71	< 0.005	0.05	—	0.05	0.05	—	0.05	—	260	260	0.01	< 0.005	—	261
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	3.47	3.47	< 0.005	< 0.005	< 0.005	3.63
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.48	7.65	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,521	1,521	0.06	0.05	5.57	1,544
Vendor	0.01	0.36	0.18	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	317	317	0.01	0.04	0.87	332
Hauling	< 0.005	0.34	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.64	291
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.53	6.49	0.00	0.00	1.44	1.44	0.00	0.34	0.34	—	1,442	1,442	0.07	0.05	0.14	1,460
Vendor	0.01	0.38	0.18	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	317	317	0.01	0.04	0.02	331
Hauling	< 0.005	0.35	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.10	1.21	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	261	261	0.01	0.01	0.43	264

Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	56.5	56.5	< 0.005	0.01	0.07	59.0
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.4	49.4	< 0.005	0.01	0.05	51.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	43.1	43.1	< 0.005	< 0.005	0.07	43.7
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.36	9.36	< 0.005	< 0.005	0.01	9.77
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.17	8.17	< 0.005	< 0.005	0.01	8.57

3.7. Building Construction (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.41	20.0	30.6	0.05	0.94	—	0.94	0.87	—	0.87	—	5,140	5,140	0.21	0.04	—	5,158
Onsite truck	0.01	0.22	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	144	144	0.01	0.02	0.37	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.41	20.0	30.6	0.05	0.94	—	0.94	0.87	—	0.87	—	5,140	5,140	0.21	0.04	—	5,158
Onsite truck	0.01	0.23	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	144	144	0.01	0.02	0.01	150
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	10.7	16.3	0.03	0.50	—	0.50	0.46	—	0.46	—	2,746	2,746	0.11	0.02	—	2,756
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	4.75	4.75	< 0.005	0.48	0.48	—	76.9	76.9	< 0.005	0.01	0.09	80.4

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	1.95	2.98	< 0.005	0.09	—	0.09	0.08	—	0.08	—	455	455	0.02	< 0.005	—	456
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.87	0.87	< 0.005	0.09	0.09	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.69	0.69	11.1	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,212	2,212	0.09	0.08	8.10	2,245
Vendor	0.02	0.72	0.35	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	635	635	0.03	0.09	1.74	663
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.32	146
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.68	0.77	9.44	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,097	2,097	0.10	0.08	0.21	2,123
Vendor	0.02	0.75	0.36	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	635	635	0.03	0.09	0.05	662
Hauling	< 0.005	0.18	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.44	5.30	0.00	0.00	1.10	1.10	0.00	0.26	0.26	—	1,137	1,137	0.05	0.04	1.87	1,152
Vendor	0.01	0.40	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	339	339	0.01	0.05	0.40	354
Hauling	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	74.0	74.0	< 0.005	0.01	0.07	77.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.97	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	188	188	0.01	0.01	0.31	191
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.1	56.1	< 0.005	0.01	0.07	58.6
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.01	12.9

3.8. Building Construction (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.41	20.0	30.6	0.05	0.94	—	0.94	0.87	—	0.87	—	5,140	5,140	0.21	0.04	—	5,158
Onsite truck	0.01	0.22	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	144	144	0.01	0.02	0.37	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.41	20.0	30.6	0.05	0.94	—	0.94	0.87	—	0.87	—	5,140	5,140	0.21	0.04	—	5,158
Onsite truck	0.01	0.23	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	144	144	0.01	0.02	0.01	150
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	10.7	16.3	0.03	0.50	—	0.50	0.46	—	0.46	—	2,746	2,746	0.11	0.02	—	2,756
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	4.75	4.75	< 0.005	0.48	0.48	—	76.9	76.9	< 0.005	0.01	0.09	80.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	1.95	2.98	< 0.005	0.09	—	0.09	0.08	—	0.08	—	455	455	0.02	< 0.005	—	456
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.87	0.87	< 0.005	0.09	0.09	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.69	0.69	11.1	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,212	2,212	0.09	0.08	8.10	2,245
Vendor	0.02	0.72	0.35	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	635	635	0.03	0.09	1.74	663

Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.32	146
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.68	0.77	9.44	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,097	2,097	0.10	0.08	0.21	2,123
Vendor	0.02	0.75	0.36	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	635	635	0.03	0.09	0.05	662
Hauling	< 0.005	0.18	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.44	5.30	0.00	0.00	1.10	1.10	0.00	0.26	0.26	—	1,137	1,137	0.05	0.04	1.87	1,152
Vendor	0.01	0.40	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	339	339	0.01	0.05	0.40	354
Hauling	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	74.0	74.0	< 0.005	0.01	0.07	77.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.97	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	188	188	0.01	0.01	0.31	191
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	56.1	56.1	< 0.005	0.01	0.07	58.6
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.01	12.9

3.9. Building Construction (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	18.2	30.5	0.05	0.82	—	0.82	0.76	—	0.76	—	5,141	5,141	0.21	0.04	—	5,159

Onsite truck	0.01	0.22	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	142	142	0.01	0.02	0.01	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.42	< 0.005	0.01	—	0.01	0.01	—	0.01	—	70.4	70.4	< 0.005	< 0.005	—	70.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.7	11.7	< 0.005	< 0.005	—	11.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.34
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.70	8.82	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,055	2,055	0.09	0.08	0.19	2,080
Vendor	0.02	0.72	0.34	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	624	624	0.03	0.09	0.04	651
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.6	28.6	< 0.005	< 0.005	0.04	29.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.54	8.54	< 0.005	< 0.005	0.01	8.93
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.86	1.86	< 0.005	< 0.005	< 0.005	1.96
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.73	4.73	< 0.005	< 0.005	0.01	4.79
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.32

3.10. Building Construction (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	18.2	30.5	0.05	0.82	—	0.82	0.76	—	0.76	—	5,141	5,141	0.21	0.04	—	5,159
Onsite truck	0.01	0.22	0.13	< 0.005	< 0.005	9.41	9.41	< 0.005	0.94	0.94	—	142	142	0.01	0.02	0.01	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.42	< 0.005	0.01	—	0.01	0.01	—	0.01	—	70.4	70.4	< 0.005	< 0.005	—	70.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.7	11.7	< 0.005	< 0.005	—	11.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.34
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.59	0.70	8.82	0.00	0.00	2.09	2.09	0.00	0.49	0.49	—	2,055	2,055	0.09	0.08	0.19	2,080
Vendor	0.02	0.72	0.34	< 0.005	0.01	0.17	0.18	< 0.005	0.05	0.05	—	624	624	0.03	0.09	0.04	651
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.6	28.6	< 0.005	< 0.005	0.04	29.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.54	8.54	< 0.005	< 0.005	0.01	8.93
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.86	1.86	< 0.005	< 0.005	< 0.005	1.96
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.73	4.73	< 0.005	< 0.005	0.01	4.79
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.48
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.32

3.11. Paving (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.10	6.62	0.01	0.24	—	0.24	0.22	—	0.22	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	116	116	0.01	0.02	0.30	121

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.10	6.62	0.01	0.24	—	0.24	0.22	—	0.22	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.18	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	116	116	0.01	0.02	0.01	121
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	3.57	4.64	0.01	0.17	—	0.17	0.15	—	0.15	—	688	688	0.03	0.01	—	690
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	3.41	3.41	< 0.005	0.34	0.34	—	81.1	81.1	< 0.005	0.01	0.09	84.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.65	0.85	< 0.005	0.03	—	0.03	0.03	—	0.03	—	114	114	< 0.005	< 0.005	—	114
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.06	—	13.4	13.4	< 0.005	< 0.005	0.01	14.0
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.31	5.17	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,084	1,084	0.04	0.04	3.67	1,100
Vendor	< 0.005	0.14	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.34	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.35	4.41	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,028	1,028	0.05	0.04	0.10	1,040
Vendor	< 0.005	0.14	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.01	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.27	3.23	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	731	731	0.03	0.03	1.11	740
Vendor	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.10	91.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.59	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	0.01	< 0.005	0.18	123
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.02	15.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2026) - Mitigated

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

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

Off-Road Equipment	0.62	5.10	6.62	0.01	0.24	—	0.24	0.22	—	0.22	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	116	116	0.01	0.02	0.30	121
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.10	6.62	0.01	0.24	—	0.24	0.22	—	0.22	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.18	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	116	116	0.01	0.02	0.01	121
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	3.57	4.64	0.01	0.17	—	0.17	0.15	—	0.15	—	688	688	0.03	0.01	—	690
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	3.41	3.41	< 0.005	0.34	0.34	—	81.1	81.1	< 0.005	0.01	0.09	84.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.65	0.85	< 0.005	0.03	—	0.03	0.03	—	0.03	—	114	114	< 0.005	< 0.005	—	114

Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.06	—	13.4	13.4	< 0.005	< 0.005	0.01	14.0
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.31	5.17	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,084	1,084	0.04	0.04	3.67	1,100
Vendor	< 0.005	0.14	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.34	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.35	4.41	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,028	1,028	0.05	0.04	0.10	1,040
Vendor	< 0.005	0.14	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.01	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.27	3.23	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	731	731	0.03	0.03	1.11	740
Vendor	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.10	91.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.59	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	0.01	< 0.005	0.18	123
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.02	15.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	4.82	6.63	0.01	0.22	—	0.22	0.20	—	0.20	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	114	114	0.01	0.02	0.28	119
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	4.82	6.63	0.01	0.22	—	0.22	0.20	—	0.20	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	114	114	0.01	0.02	0.01	119
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	3.45	4.73	0.01	0.16	—	0.16	0.14	—	0.14	—	701	701	0.03	0.01	—	704

Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	3.47	3.47	< 0.005	0.35	0.35	—	81.1	81.1	< 0.005	0.01	0.09	84.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.63	0.86	< 0.005	0.03	—	0.03	0.03	—	0.03	—	116	116	< 0.005	< 0.005	—	117
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.63	0.63	< 0.005	0.06	0.06	—	13.4	13.4	< 0.005	< 0.005	0.01	14.0
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	4.81	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,063	1,063	0.04	0.04	3.31	1,079
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.32	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.34	4.07	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,008	1,008	0.01	0.04	0.09	1,020
Vendor	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.01	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.25	3.06	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	731	731	0.01	0.03	1.02	740

Vendor	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.10	91.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.56	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.17	123
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.02	15.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Paving (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	4.82	6.63	0.01	0.22	—	0.22	0.20	—	0.20	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	114	114	0.01	0.02	0.28	119
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	4.82	6.63	0.01	0.22	—	0.22	0.20	—	0.20	—	982	982	0.04	0.01	—	985
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—

Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	114	114	0.01	0.02	0.01	119
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	3.45	4.73	0.01	0.16	—	0.16	0.14	—	0.14	—	701	701	0.03	0.01	—	704
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	3.47	3.47	< 0.005	0.35	0.35	—	81.1	81.1	< 0.005	0.01	0.09	84.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.63	0.86	< 0.005	0.03	—	0.03	0.03	—	0.03	—	116	116	< 0.005	< 0.005	—	117
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.63	0.63	< 0.005	0.06	0.06	—	13.4	13.4	< 0.005	< 0.005	0.01	14.0
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	4.81	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,063	1,063	0.04	0.04	3.31	1,079
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.32	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.34	4.07	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,008	1,008	0.01	0.04	0.09	1,020
Vendor	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.01	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.25	3.06	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	731	731	0.01	0.03	1.02	740
Vendor	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.4	87.4	< 0.005	0.01	0.10	91.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.56	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.17	123
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.02	15.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Paving (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	4.57	6.62	0.01	0.19	—	0.19	0.18	—	0.18	—	982	982	0.04	0.01	—	986

Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	111	111	0.01	0.02	0.01	116
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.42	0.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	90.3	90.3	< 0.005	< 0.005	—	90.6
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.05	—	10.2	10.2	< 0.005	< 0.005	0.01	10.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.0	15.0	< 0.005	< 0.005	—	15.0
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.69	1.69	< 0.005	< 0.005	< 0.005	1.77
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.27	0.31	3.84	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	990	990	0.01	0.04	0.08	1,002
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.01	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	92.4	92.4	< 0.005	< 0.005	0.12	93.6
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.02	15.5
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.82	1.82	< 0.005	< 0.005	< 0.005	1.90
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Paving (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	4.57	6.62	0.01	0.19	—	0.19	0.18	—	0.18	—	982	982	0.04	0.01	—	986
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	< 0.005	0.17	0.10	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	111	111	0.01	0.02	0.01	116
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.42	0.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	90.3	90.3	< 0.005	< 0.005	—	90.6
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.05	—	10.2	10.2	< 0.005	< 0.005	0.01	10.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.0	15.0	< 0.005	< 0.005	—	15.0
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.69	1.69	< 0.005	< 0.005	< 0.005	1.77
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.31	3.84	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	990	990	0.01	0.04	0.08	1,002
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.01	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.37	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	92.4	92.4	< 0.005	< 0.005	0.12	93.6
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.02	15.5
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.82	1.82	< 0.005	< 0.005	< 0.005	1.90
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Architectural Coating (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.38	8.93	0.01	0.20	—	0.20	0.18	—	0.18	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	90.0	90.0	0.01	0.01	0.23	94.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.38	8.93	0.01	0.20	—	0.20	0.18	—	0.18	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.14	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	90.1	90.1	0.01	0.01	0.01	94.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.40	3.77	6.26	0.01	0.14	—	0.14	0.13	—	0.13	—	994	994	0.04	0.01	—	997
Onsite truck	< 0.005	0.10	0.06	< 0.005	< 0.005	2.65	2.65	< 0.005	0.27	0.27	—	63.1	63.1	< 0.005	0.01	0.07	66.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.69	1.14	< 0.005	0.03	—	0.03	0.02	—	0.02	—	165	165	0.01	< 0.005	—	165
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.48	0.48	< 0.005	0.05	0.05	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.29	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	271	271	0.01	0.01	0.92	275
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.31	143
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.10	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	257	257	0.01	0.01	0.02	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.07	0.81	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	0.01	0.01	0.28	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.3	95.3	0.01	0.02	0.09	100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.05	30.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.02	16.6

3.18. Architectural Coating (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.38	8.93	0.01	0.20	—	0.20	0.18	—	0.18	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	90.0	90.0	0.01	0.01	0.23	94.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	5.38	8.93	0.01	0.20	—	0.20	0.18	—	0.18	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.14	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	90.1	90.1	0.01	0.01	0.01	94.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	3.77	6.26	0.01	0.14	—	0.14	0.13	—	0.13	—	994	994	0.04	0.01	—	997
Onsite truck	< 0.005	0.10	0.06	< 0.005	< 0.005	2.65	2.65	< 0.005	0.27	0.27	—	63.1	63.1	< 0.005	0.01	0.07	66.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.69	1.14	< 0.005	0.03	—	0.03	0.02	—	0.02	—	165	165	0.01	< 0.005	—	165
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.48	0.48	< 0.005	0.05	0.05	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.29	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	271	271	0.01	0.01	0.92	275
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.31	143
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.10	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	257	257	0.01	0.01	0.02	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	136	136	0.01	0.02	0.01	143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.07	0.81	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	0.01	0.01	0.28	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.3	95.3	0.01	0.02	0.09	100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.05	30.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.02	16.6

3.19. Architectural Coating (2027) - Unmitigated

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

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

Off-Road Equipment	0.54	5.09	8.92	0.01	0.17	—	0.17	0.16	—	0.16	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	88.3	88.3	0.01	0.01	0.22	92.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	5.09	8.92	0.01	0.17	—	0.17	0.16	—	0.16	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.14	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	88.4	88.4	0.01	0.01	0.01	92.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	3.63	6.37	0.01	0.12	—	0.12	0.11	—	0.11	—	1,014	1,014	0.04	0.01	—	1,017
Onsite truck	< 0.005	0.10	0.05	< 0.005	< 0.005	2.70	2.70	< 0.005	0.27	0.27	—	63.1	63.1	< 0.005	0.01	0.07	65.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.66	1.16	< 0.005	0.02	—	0.02	0.02	—	0.02	—	168	168	0.01	< 0.005	—	168
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.49	0.49	< 0.005	0.05	0.05	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	1.20	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	266	266	0.01	0.01	0.83	270
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.28	140
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.02	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	252	252	< 0.005	0.01	0.02	255

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.01	140
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.06	0.76	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	< 0.005	0.01	0.25	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.3	95.3	< 0.005	0.02	0.09	100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.04	30.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.01	16.6

3.20. Architectural Coating (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	5.09	8.92	0.01	0.17	—	0.17	0.16	—	0.16	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	88.3	88.3	0.01	0.01	0.22	92.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	5.09	8.92	0.01	0.17	—	0.17	0.16	—	0.16	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.14	0.08	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	88.4	88.4	0.01	0.01	0.01	92.2

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	3.63	6.37	0.01	0.12	—	0.12	0.11	—	0.11	—	1,014	1,014	0.04	0.01	—	1,017
Onsite truck	< 0.005	0.10	0.05	< 0.005	< 0.005	2.70	2.70	< 0.005	0.27	0.27	—	63.1	63.1	< 0.005	0.01	0.07	65.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.66	1.16	< 0.005	0.02	—	0.02	0.02	—	0.02	—	168	168	0.01	< 0.005	—	168
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.49	0.49	< 0.005	0.05	0.05	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	1.20	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	266	266	0.01	0.01	0.83	270
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.28	140
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.02	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	252	252	< 0.005	0.01	0.02	255
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.01	140
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.06	0.76	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	< 0.005	0.01	0.25	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.3	95.3	< 0.005	0.02	0.09	100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.04	30.6

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.01	16.6

3.21. Architectural Coating (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	4.86	8.93	0.01	0.15	—	0.15	0.14	—	0.14	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	86.4	86.4	< 0.005	0.01	0.01	90.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.45	0.82	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.03	0.04	—	7.94	7.94	< 0.005	< 0.005	0.01	8.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.6	21.6	< 0.005	< 0.005	—	21.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.37
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.96	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	247	247	< 0.005	0.01	0.02	250
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	130	130	0.01	0.02	0.01	137
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.1	23.1	< 0.005	< 0.005	0.03	23.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.01	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.82	3.82	< 0.005	< 0.005	< 0.005	3.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.08

3.22. Architectural Coating (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	4.86	8.93	0.01	0.15	—	0.15	0.14	—	0.14	—	1,419	1,419	0.06	0.01	—	1,424
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	4.00	4.00	< 0.005	0.40	0.40	—	86.4	86.4	< 0.005	0.01	0.01	90.2

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.45	0.82	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.35	0.35	< 0.005	0.03	0.04	—	7.94	7.94	< 0.005	< 0.005	0.01	8.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.6	21.6	< 0.005	< 0.005	—	21.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.37
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.96	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	247	247	< 0.005	0.01	0.02	250
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	130	130	0.01	0.02	0.01	137
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.1	23.1	< 0.005	< 0.005	0.03	23.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.01	12.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.82	3.82	< 0.005	< 0.005	< 0.005	3.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.08

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	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	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	11/14/2024	1/1/2025	5.00	35.0	site clearing
Grading	Grading	1/2/2025	4/2/2025	5.00	65.0	excavation and grading
Building Construction	Building Construction	4/3/2025	1/7/2026	5.00	200	installation of park canopies and structures
Paving	Paving	1/8/2026	2/16/2028	5.00	550	paving of parking lot and access roads/paths
Architectural Coating	Architectural Coating	1/8/2026	2/16/2028	5.00	550	landscaping & finishing on structures

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	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Air Compressors	Diesel	Average	1.00	4.00	37.0	0.48
Site Preparation	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
Site Preparation	Aerial Lifts	Diesel	Average	5.00	6.00	46.0	0.31
Site Preparation	Rubber Tired Loaders	Diesel	Average	2.00	6.00	150	0.36
Site Preparation	Welders	Diesel	Average	3.00	4.00	46.0	0.45
Site Preparation	Cranes	Diesel	Average	1.00	4.00	367	0.29
Grading	Graders	Diesel	Average	2.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	6.00	7.00	84.0	0.37
Grading	Air Compressors	Diesel	Average	2.00	6.00	37.0	0.48
Grading	Rollers	Diesel	Average	1.00	6.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	5.00	7.00	150	0.36
Grading	Welders	Diesel	Average	3.00	7.00	46.0	0.45
Grading	Aerial Lifts	Diesel	Average	9.00	6.00	46.0	0.31
Grading	Generator Sets	Diesel	Average	2.00	6.00	14.0	0.74
Grading	Cranes	Diesel	Average	1.00	4.00	367	0.29
Grading	Forklifts	Diesel	Average	4.00	7.00	82.0	0.20
Grading	Pressure Washers	Diesel	Average	3.00	6.00	14.0	0.30
Grading	Trenchers	Diesel	Average	1.00	4.00	40.0	0.50
Grading	Surfacing Equipment	Diesel	Average	1.00	4.00	399	0.30
Building Construction	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Rollers	Diesel	Average	2.00	7.00	36.0	0.38
Building Construction	Rubber Tired Loaders	Diesel	Average	4.00	7.00	150	0.36
Building Construction	Skid Steer Loaders	Diesel	Average	2.00	7.00	71.0	0.37
Building Construction	Graders	Diesel	Average	2.00	6.00	148	0.41
Building Construction	Surfacing Equipment	Diesel	Average	1.00	4.00	399	0.30
Building Construction	Off-Highway Tractors	Diesel	Average	1.00	6.00	38.0	0.44
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Graders	Diesel	Average	1.00	6.00	148	0.41
Paving	Welders	Diesel	Average	1.00	6.00	46.0	0.45
Architectural Coating	Skid Steer Loaders	Diesel	Average	2.00	7.00	71.0	0.37
Architectural Coating	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Architectural Coating	Aerial Lifts	Diesel	Average	1.00	7.00	46.0	0.31
Architectural Coating	Rubber Tired Loaders	Diesel	Average	1.00	7.00	150	0.36
Architectural Coating	Trenchers	Diesel	Average	1.00	6.00	40.0	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Air Compressors	Diesel	Average	1.00	4.00	37.0	0.48
Site Preparation	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
Site Preparation	Aerial Lifts	Diesel	Average	5.00	6.00	46.0	0.31
Site Preparation	Rubber Tired Loaders	Diesel	Average	2.00	6.00	150	0.36
Site Preparation	Welders	Diesel	Average	3.00	4.00	46.0	0.45
Site Preparation	Cranes	Diesel	Average	1.00	4.00	367	0.29

Grading	Graders	Diesel	Average	2.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	6.00	7.00	84.0	0.37
Grading	Air Compressors	Diesel	Average	2.00	6.00	37.0	0.48
Grading	Rollers	Diesel	Average	1.00	6.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	5.00	7.00	150	0.36
Grading	Welders	Diesel	Average	3.00	7.00	46.0	0.45
Grading	Aerial Lifts	Diesel	Average	9.00	6.00	46.0	0.31
Grading	Generator Sets	Diesel	Average	2.00	6.00	14.0	0.74
Grading	Cranes	Diesel	Average	1.00	4.00	367	0.29
Grading	Forklifts	Diesel	Average	4.00	7.00	82.0	0.20
Grading	Pressure Washers	Diesel	Average	3.00	6.00	14.0	0.30
Grading	Trenchers	Diesel	Average	1.00	4.00	40.0	0.50
Grading	Surfacing Equipment	Diesel	Average	1.00	4.00	399	0.30
Building Construction	Forklifts	Diesel	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Rollers	Diesel	Average	2.00	7.00	36.0	0.38
Building Construction	Rubber Tired Loaders	Diesel	Average	4.00	7.00	150	0.36
Building Construction	Skid Steer Loaders	Diesel	Average	2.00	7.00	71.0	0.37
Building Construction	Graders	Diesel	Average	2.00	6.00	148	0.41
Building Construction	Surfacing Equipment	Diesel	Average	1.00	4.00	399	0.30
Building Construction	Off-Highway Tractors	Diesel	Average	1.00	6.00	38.0	0.44
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Graders	Diesel	Average	1.00	6.00	148	0.41

Paving	Welders	Diesel	Average	1.00	6.00	46.0	0.45
Architectural Coating	Skid Steer Loaders	Diesel	Average	2.00	7.00	71.0	0.37
Architectural Coating	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Architectural Coating	Aerial Lifts	Diesel	Average	1.00	7.00	46.0	0.31
Architectural Coating	Rubber Tired Loaders	Diesel	Average	1.00	7.00	150	0.36
Architectural Coating	Trenchers	Diesel	Average	1.00	6.00	40.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	64.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	6.00	10.2	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	110	18.5	LDA,LDT1,LDT2
Grading	Vendor	10.0	10.2	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	9.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	160	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	20.0	10.2	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	11.0	4.00	HHDT,MHDT
Paving	—	—	—	—

Paving	Worker	80.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	4.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	9.00	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	20.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	2.00	20.0	HHDT
Architectural Coating	Onsite truck	7.00	4.00	HHDT,MHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	64.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	6.00	10.2	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	110	18.5	LDA,LDT1,LDT2
Grading	Vendor	10.0	10.2	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	9.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	160	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	20.0	10.2	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	11.0	4.00	HHDT,MHDT

Paving	—	—	—	—
Paving	Worker	80.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	4.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	9.00	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	20.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	2.00	20.0	HHDT
Architectural Coating	Onsite truck	7.00	4.00	HHDT,MHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	57%	57%

5.5. Architectural Coatings

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

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	0.00	0.00	—

Grading	0.00	0.00	65.0	0.00	—
Paving	0.00	0.00	37.5	0.00	3.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Parking Lot	3.00	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	690	0.05	0.01
2025	0.00	690	0.05	0.01
2026	0.00	690	0.05	0.01
2027	0.00	690	0.05	0.01
2028	0.00	690	0.05	0.01

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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

6.4.1. Wildfire

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
MH-14: Maintain Trails and Parks	Improved Public Health, Social Equity	—	1.00	1.00

6.4.2. Temperature and Extreme Heat

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
D-3: Install Drought Resistant Landscaping	Water Conservation	—	1.00	1.00

EH-9: Expand Urban Tree Canopy	Energy and Fuel Savings, Improved Air Quality, Improved Public Health, Social Equity	1.00	1.00	—
MH-14: Maintain Trails and Parks	Improved Public Health, Social Equity	—	1.00	1.00
MH-23: Landscape with Climate Considerations	Improved Ecosystem Health, Water Conservation	—	1.00	—
MH-41: Expand Urban Greening/Agriculture	Enhanced Food Security, Improved Air Quality, Improved Public Health, Social Equity, Water Conservation	1.00	1.00	1.00

6.4.3. Air Quality Degradation

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
MH-41: Expand Urban Greening/Agriculture	Enhanced Food Security, Improved Air Quality, Improved Public Health, Social Equity, Water Conservation	1.00	1.00	1.00

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	69.6
AQ-PM	65.9
AQ-DPM	47.5
Drinking Water	92.5
Lead Risk Housing	—
Pesticides	0.00
Toxic Releases	70.0

Traffic	99.5
Effect Indicators	—
CleanUp Sites	94.3
Groundwater	36.9
Haz Waste Facilities/Generators	47.6
Impaired Water Bodies	77.3
Solid Waste	89.9
Sensitive Population	—
Asthma	8.92
Cardio-vascular	23.8
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—

High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	87.3
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	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	79.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
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	100.0
SLR Inundation Area	0.0
Children	99.4
Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.9

Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Park construction schedule obtained from PD dated 1-11-24.

Construction: Off-Road Equipment	Equipment inventory provided by LADWP.
Construction: Dust From Material Movement	Included all phases with earthmoving equipment (i.e., grader).
Construction: Trips and VMT	Personnel & vehicle inventories provided by LADWP.
Construction: On-Road Fugitive Dust	Vehicle speeds on unpaved areas limited to 15 mph = 57% dust reduction (SCAQMD Table XI-A)

LADWP Headworks Project - WQL Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LADWP Headworks Project - WQL Construction
Construction Start Date	6/14/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	20.2
Location	34.15313612290838, -118.3185549473283
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3974
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
Research & Development	100	1000sqft	4.85	100,000	111,500	111,500	—	—

Parking Lot	2.15	Acre	2.15	0.00	15,625	15,625	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-4*	Use Local and Sustainable Building Materials

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.2	33.3	37.7	0.08	1.28	9.65	10.3	1.18	1.87	3.05	—	9,448	9,448	0.39	0.22	6.64	9,521
Mit.	12.2	33.3	37.7	0.08	1.28	9.65	10.3	1.18	1.87	3.05	—	9,448	9,448	0.39	0.22	6.64	9,521
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.2	33.4	37.5	0.08	1.28	9.65	10.3	1.18	1.87	3.05	—	9,428	9,428	0.38	0.22	0.17	9,497
Mit.	12.2	33.4	37.5	0.08	1.28	9.65	10.3	1.18	1.87	3.05	—	9,428	9,428	0.38	0.22	0.17	9,497
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	3.82	11.4	15.3	0.03	0.43	5.34	5.60	0.39	0.67	0.99	—	3,510	3,510	0.13	0.09	1.25	3,542
Mit.	3.82	11.4	15.3	0.03	0.43	5.34	5.60	0.39	0.67	0.99	—	3,510	3,510	0.13	0.09	1.25	3,542
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.70	2.09	2.80	0.01	0.08	0.97	1.02	0.07	0.12	0.18	—	581	581	0.02	0.02	0.21	586
Mit.	0.70	2.09	2.80	0.01	0.08	0.97	1.02	0.07	0.12	0.18	—	581	581	0.02	0.02	0.21	586
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.86	33.3	37.7	0.08	1.28	7.16	8.44	1.18	1.87	3.05	—	9,448	9,448	0.39	0.20	3.21	9,521

2028	1.11	11.5	17.4	0.03	0.20	6.81	7.00	0.18	0.79	0.97	—	3,347	3,347	0.11	0.08	2.74	3,376
2029	12.2	18.0	30.3	0.05	0.67	9.65	10.3	0.61	1.28	1.89	—	7,656	7,656	0.26	0.22	6.64	7,734
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.86	33.4	37.5	0.08	1.28	7.16	8.44	1.18	1.87	3.05	—	9,428	9,428	0.38	0.20	0.10	9,497
2028	1.97	16.3	24.4	0.05	0.48	6.81	7.00	0.44	0.79	1.14	—	5,910	5,910	0.23	0.18	0.09	5,969
2029	12.2	18.1	29.0	0.05	0.67	9.65	10.3	0.61	1.28	1.89	—	7,550	7,550	0.26	0.22	0.17	7,622
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.33	11.4	13.4	0.03	0.43	2.59	3.02	0.39	0.60	0.99	—	3,342	3,342	0.13	0.08	0.57	3,368
2028	0.87	8.70	12.8	0.02	0.17	4.52	4.69	0.15	0.53	0.68	—	2,613	2,613	0.09	0.06	0.87	2,635
2029	3.82	9.94	15.3	0.02	0.26	5.34	5.60	0.24	0.67	0.91	—	3,510	3,510	0.12	0.09	1.25	3,542
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.24	2.09	2.45	0.01	0.08	0.47	0.55	0.07	0.11	0.18	—	553	553	0.02	0.01	0.09	558
2028	0.16	1.59	2.34	< 0.005	0.03	0.83	0.86	0.03	0.10	0.12	—	433	433	0.02	0.01	0.14	436
2029	0.70	1.81	2.80	< 0.005	0.05	0.97	1.02	0.04	0.12	0.17	—	581	581	0.02	0.02	0.21	586

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.86	33.3	37.7	0.08	1.28	7.16	8.44	1.18	1.87	3.05	—	9,448	9,448	0.39	0.20	3.21	9,521
2028	1.11	11.5	17.4	0.03	0.20	6.81	7.00	0.18	0.79	0.97	—	3,347	3,347	0.11	0.08	2.74	3,376
2029	12.2	18.0	30.3	0.05	0.67	9.65	10.3	0.61	1.28	1.89	—	7,656	7,656	0.26	0.22	6.64	7,734
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2027	3.86	33.4	37.5	0.08	1.28	7.16	8.44	1.18	1.87	3.05	—	9,428	9,428	0.38	0.20	0.10	9,497
2028	1.97	16.3	24.4	0.05	0.48	6.81	7.00	0.44	0.79	1.14	—	5,910	5,910	0.23	0.18	0.09	5,969
2029	12.2	18.1	29.0	0.05	0.67	9.65	10.3	0.61	1.28	1.89	—	7,550	7,550	0.26	0.22	0.17	7,622
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.33	11.4	13.4	0.03	0.43	2.59	3.02	0.39	0.60	0.99	—	3,342	3,342	0.13	0.08	0.57	3,368
2028	0.87	8.70	12.8	0.02	0.17	4.52	4.69	0.15	0.53	0.68	—	2,613	2,613	0.09	0.06	0.87	2,635
2029	3.82	9.94	15.3	0.02	0.26	5.34	5.60	0.24	0.67	0.91	—	3,510	3,510	0.12	0.09	1.25	3,542
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.24	2.09	2.45	0.01	0.08	0.47	0.55	0.07	0.11	0.18	—	553	553	0.02	0.01	0.09	558
2028	0.16	1.59	2.34	< 0.005	0.03	0.83	0.86	0.03	0.10	0.12	—	433	433	0.02	0.01	0.14	436
2029	0.70	1.81	2.80	< 0.005	0.05	0.97	1.02	0.04	0.12	0.17	—	581	581	0.02	0.02	0.21	586

3. Construction Emissions Details

3.1. Site Preparation (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.73	32.3	35.5	0.08	1.28	—	1.28	1.17	—	1.17	—	8,243	8,243	0.33	0.07	—	8,272
Dust From Material Movement	—	—	—	—	—	3.18	3.18	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.07	0.04	< 0.005	< 0.005	3.38	3.38	< 0.005	0.34	0.34	—	50.5	50.5	< 0.005	0.01	0.13	52.8

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.73	32.3	35.5	0.08	1.28	—	1.28	1.17	—	1.17	—	8,243	8,243	0.33	0.07	—	8,272
Dust From Material Movement	—	—	—	—	—	3.18	3.18	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.04	< 0.005	< 0.005	3.38	3.38	< 0.005	0.34	0.34	—	50.5	50.5	< 0.005	0.01	< 0.005	52.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.30	10.2	0.02	0.37	—	0.37	0.34	—	0.34	—	2,371	2,371	0.10	0.02	—	2,380
Dust From Material Movement	—	—	—	—	—	0.91	0.91	—	0.40	0.40	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.92	0.92	< 0.005	0.09	0.09	—	14.5	14.5	< 0.005	< 0.005	0.02	15.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.70	1.86	< 0.005	0.07	—	0.07	0.06	—	0.06	—	393	393	0.02	< 0.005	—	394
Dust From Material Movement	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.17	0.17	< 0.005	0.02	0.02	—	2.40	2.40	< 0.005	< 0.005	< 0.005	2.51
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	1.80	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	399	399	0.02	0.01	1.24	405

Vendor	0.01	0.53	0.25	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	1.28	511
Hauling	< 0.005	0.32	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.57	281
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.13	1.53	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	378	378	0.01	0.01	0.03	382
Vendor	0.01	0.55	0.26	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	0.03	510
Hauling	< 0.005	0.33	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.01	280
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.46	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.15	112
Vendor	< 0.005	0.16	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	0.01	0.02	0.16	147
Hauling	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	76.7	76.7	< 0.005	0.01	0.07	80.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.3	18.3	< 0.005	< 0.005	0.03	18.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.3	23.3	< 0.005	< 0.005	0.03	24.3
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3

3.2. Site Preparation (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.73	32.3	35.5	0.08	1.28	—	1.28	1.17	—	1.17	—	8,243	8,243	0.33	0.07	—	8,272

Dust From Material Movement	—	—	—	—	—	3.18	3.18	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.07	0.04	< 0.005	< 0.005	3.38	3.38	< 0.005	0.34	0.34	—	50.5	50.5	< 0.005	0.01	0.13	52.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.73	32.3	35.5	0.08	1.28	—	1.28	1.17	—	1.17	—	8,243	8,243	0.33	0.07	—	8,272
Dust From Material Movement	—	—	—	—	—	3.18	3.18	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.04	< 0.005	< 0.005	3.38	3.38	< 0.005	0.34	0.34	—	50.5	50.5	< 0.005	0.01	< 0.005	52.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.30	10.2	0.02	0.37	—	0.37	0.34	—	0.34	—	2,371	2,371	0.10	0.02	—	2,380
Dust From Material Movement	—	—	—	—	—	0.91	0.91	—	0.40	0.40	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.92	0.92	< 0.005	0.09	0.09	—	14.5	14.5	< 0.005	< 0.005	0.02	15.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.70	1.86	< 0.005	0.07	—	0.07	0.06	—	0.06	—	393	393	0.02	< 0.005	—	394
Dust From Material Movement	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.17	0.17	< 0.005	0.02	0.02	—	2.40	2.40	< 0.005	< 0.005	< 0.005	2.51

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	1.80	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	399	399	0.02	0.01	1.24	405
Vendor	0.01	0.53	0.25	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	1.28	511
Hauling	< 0.005	0.32	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.57	281
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.13	1.53	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	378	378	0.01	0.01	0.03	382
Vendor	0.01	0.55	0.26	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	0.03	510
Hauling	< 0.005	0.33	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.01	280
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.46	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.15	112
Vendor	< 0.005	0.16	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	0.01	0.02	0.16	147
Hauling	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	76.7	76.7	< 0.005	0.01	0.07	80.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.3	18.3	< 0.005	< 0.005	0.03	18.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.3	23.3	< 0.005	< 0.005	0.03	24.3
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.01	13.3

3.3. Grading (2027) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.89	16.1	22.1	0.05	0.53	—	0.53	0.49	—	0.49	—	4,601	4,601	0.19	0.04	—	4,616
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	5.13	5.13	< 0.005	0.51	0.51	—	75.8	75.8	< 0.005	0.01	< 0.005	79.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.70	2.34	< 0.005	0.06	—	0.06	0.05	—	0.05	—	486	486	0.02	< 0.005	—	488
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.51	0.51	< 0.005	0.05	0.05	—	8.00	8.00	< 0.005	< 0.005	0.01	8.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.31	0.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.5	80.5	< 0.005	< 0.005	—	80.8
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.38
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.17	2.04	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	504	504	0.01	0.02	0.04	510
Vendor	0.01	0.55	0.26	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	0.03	510
Hauling	< 0.005	0.33	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.01	280
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.0	54.0	< 0.005	< 0.005	0.08	54.7
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.7	51.7	< 0.005	0.01	0.06	53.9
Hauling	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.2	28.2	< 0.005	< 0.005	0.03	29.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.95	8.95	< 0.005	< 0.005	0.01	9.06
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.56	8.56	< 0.005	< 0.005	0.01	8.93
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.67	4.67	< 0.005	< 0.005	< 0.005	4.90

3.4. Grading (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.89	16.1	22.1	0.05	0.53	—	0.53	0.49	—	0.49	—	4,601	4,601	0.19	0.04	—	4,616

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	5.13	5.13	< 0.005	0.51	0.51	—	75.8	75.8	< 0.005	0.01	< 0.005	79.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	1.70	2.34	< 0.005	0.06	—	0.06	0.05	—	0.05	—	486	486	0.02	< 0.005	—	488
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.51	0.51	< 0.005	0.05	0.05	—	8.00	8.00	< 0.005	< 0.005	0.01	8.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.31	0.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.5	80.5	< 0.005	< 0.005	—	80.8
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.38
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.17	2.04	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	504	504	0.01	0.02	0.04	510
Vendor	0.01	0.55	0.26	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	489	489	0.02	0.07	0.03	510
Hauling	< 0.005	0.33	0.13	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	267	267	0.01	0.04	0.01	280

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.0	54.0	< 0.005	< 0.005	0.08	54.7
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.7	51.7	< 0.005	0.01	0.06	53.9
Hauling	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.2	28.2	< 0.005	< 0.005	0.03	29.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.95	8.95	< 0.005	< 0.005	0.01	9.06
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.56	8.56	< 0.005	< 0.005	0.01	8.93
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.67	4.67	< 0.005	< 0.005	< 0.005	4.90

3.5. Grading (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.81	15.2	22.1	0.05	0.47	—	0.47	0.44	—	0.44	—	4,602	4,602	0.19	0.04	—	4,618
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.11	0.06	< 0.005	< 0.005	5.13	5.13	< 0.005	0.51	0.51	—	74.1	74.1	< 0.005	0.01	< 0.005	77.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	1.46	2.12	< 0.005	0.05	—	0.05	0.04	—	0.04	—	441	441	0.02	< 0.005	—	443

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.47	0.47	< 0.005	0.05	0.05	—	7.10	7.10	< 0.005	< 0.005	0.01	7.42
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.27	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	73.1	73.1	< 0.005	< 0.005	—	73.3
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.16	1.92	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	495	495	0.01	0.02	0.04	501
Vendor	0.01	0.52	0.24	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	478	478	0.02	0.07	0.03	499
Hauling	< 0.005	0.32	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	261	261	0.01	0.04	0.01	274
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.2	48.2	< 0.005	< 0.005	0.06	48.8
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	45.8	45.8	< 0.005	0.01	0.05	47.8
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.0	25.0	< 0.005	< 0.005	0.02	26.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.97	7.97	< 0.005	< 0.005	0.01	8.08
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.59	7.59	< 0.005	< 0.005	0.01	7.92

Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	< 0.005	4.35

3.6. Grading (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.81	15.2	22.1	0.05	0.47	—	0.47	0.44	—	0.44	—	4,602	4,602	0.19	0.04	—	4,618
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.11	0.06	< 0.005	< 0.005	5.13	5.13	< 0.005	0.51	0.51	—	74.1	74.1	< 0.005	0.01	< 0.005	77.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	1.46	2.12	< 0.005	0.05	—	0.05	0.04	—	0.04	—	441	441	0.02	< 0.005	—	443
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.47	0.47	< 0.005	0.05	0.05	—	7.10	7.10	< 0.005	< 0.005	0.01	7.42
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.27	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	73.1	73.1	< 0.005	< 0.005	—	73.3

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.16	1.92	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	495	495	0.01	0.02	0.04	501
Vendor	0.01	0.52	0.24	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	478	478	0.02	0.07	0.03	499
Hauling	< 0.005	0.32	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	261	261	0.01	0.04	0.01	274
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.2	48.2	< 0.005	< 0.005	0.06	48.8
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	45.8	45.8	< 0.005	0.01	0.05	47.8
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.0	25.0	< 0.005	< 0.005	0.02	26.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.97	7.97	< 0.005	< 0.005	0.01	8.08
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.59	7.59	< 0.005	< 0.005	0.01	7.92
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	< 0.005	4.35

3.7. Building Construction (2028) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	11.1	13.9	0.02	0.19	—	0.19	0.18	—	0.18	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	86.3	86.3	< 0.005	0.01	0.21	90.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	11.1	13.9	0.02	0.19	—	0.19	0.18	—	0.18	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	86.4	86.4	< 0.005	0.01	0.01	90.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	6.84	8.55	0.01	0.12	—	0.12	0.11	—	0.11	—	1,454	1,454	0.06	0.01	—	1,459
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	3.49	3.49	< 0.005	0.35	0.35	—	53.2	53.2	< 0.005	0.01	0.05	55.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	1.25	1.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	241	241	0.01	< 0.005	—	241
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.64	0.64	< 0.005	0.06	0.06	—	8.81	8.81	< 0.005	< 0.005	0.01	9.21
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.20	3.38	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	783	783	0.01	0.03	2.23	794
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	119	119	< 0.005	0.02	0.30	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.23	2.88	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	742	742	0.01	0.03	0.06	751
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.01	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.14	1.85	0.00	0.00	0.48	0.48	0.00	0.11	0.11	—	464	464	0.01	0.02	0.60	470
Vendor	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.6	73.6	< 0.005	0.01	0.08	76.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.34	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	76.9	76.9	< 0.005	< 0.005	0.10	77.9
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.01	12.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	11.1	13.9	0.02	0.19	—	0.19	0.18	—	0.18	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	86.3	86.3	< 0.005	0.01	0.21	90.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.90	11.1	13.9	0.02	0.19	—	0.19	0.18	—	0.18	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	86.4	86.4	< 0.005	0.01	0.01	90.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	6.84	8.55	0.01	0.12	—	0.12	0.11	—	0.11	—	1,454	1,454	0.06	0.01	—	1,459
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	3.49	3.49	< 0.005	0.35	0.35	—	53.2	53.2	< 0.005	0.01	0.05	55.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	1.25	1.56	< 0.005	0.02	—	0.02	0.02	—	0.02	—	241	241	0.01	< 0.005	—	241
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.64	0.64	< 0.005	0.06	0.06	—	8.81	8.81	< 0.005	< 0.005	0.01	9.21
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.20	3.38	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	783	783	0.01	0.03	2.23	794
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	119	119	< 0.005	0.02	0.30	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.23	2.88	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	742	742	0.01	0.03	0.06	751
Vendor	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.01	125
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.14	1.85	0.00	0.00	0.48	0.48	0.00	0.11	0.11	—	464	464	0.01	0.02	0.60	470
Vendor	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.6	73.6	< 0.005	0.01	0.08	76.9

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.34	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	76.9	76.9	< 0.005	< 0.005	0.10	77.9
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.01	12.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2029) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	11.0	13.9	0.02	0.18	—	0.18	0.17	—	0.17	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	84.1	84.1	< 0.005	0.01	0.20	88.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	11.0	13.9	0.02	0.18	—	0.18	0.17	—	0.17	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	84.2	84.2	< 0.005	0.01	0.01	88.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	4.77	6.02	0.01	0.08	—	0.08	0.07	—	0.07	—	1,024	1,024	0.04	0.01	—	1,028
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	2.46	2.46	< 0.005	0.25	0.25	—	36.6	36.6	< 0.005	0.01	0.04	38.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.07	0.87	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	170	170	0.01	< 0.005	—	170
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.04	—	6.05	6.05	< 0.005	< 0.005	0.01	6.33
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	3.16	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	770	770	0.01	0.03	2.00	780
Vendor	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.28	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.21	2.68	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	730	730	0.01	0.03	0.05	739
Vendor	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.01	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.09	1.22	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	322	322	< 0.005	0.01	0.38	326
Vendor	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	50.5	50.5	< 0.005	0.01	0.05	52.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	53.3	53.3	< 0.005	< 0.005	0.06	54.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.37	8.37	< 0.005	< 0.005	0.01	8.74
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2029) - Mitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	11.0	13.9	0.02	0.18	—	0.18	0.17	—	0.17	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.12	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	84.1	84.1	< 0.005	0.01	0.20	88.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	11.0	13.9	0.02	0.18	—	0.18	0.17	—	0.17	—	2,358	2,358	0.10	0.02	—	2,366
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	5.99	5.99	< 0.005	0.60	0.60	—	84.2	84.2	< 0.005	0.01	0.01	88.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	4.77	6.02	0.01	0.08	—	0.08	0.07	—	0.07	—	1,024	1,024	0.04	0.01	—	1,028
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	2.46	2.46	< 0.005	0.25	0.25	—	36.6	36.6	< 0.005	0.01	0.04	38.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.87	1.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	170	170	0.01	< 0.005	—	170
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.04	—	6.05	6.05	< 0.005	< 0.005	0.01	6.33
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	3.16	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	770	770	0.01	0.03	2.00	780
Vendor	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.28	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.21	2.68	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	730	730	0.01	0.03	0.05	739
Vendor	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.01	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.09	1.22	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	322	322	< 0.005	0.01	0.38	326
Vendor	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	50.5	50.5	< 0.005	0.01	0.05	52.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	53.3	53.3	< 0.005	< 0.005	0.06	54.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.37	8.37	< 0.005	< 0.005	0.01	8.74
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2029) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.03	4.03	0.01	0.12	—	0.12	0.11	—	0.11	—	599	599	0.02	< 0.005	—	601
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.15	0.09	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	108	108	0.01	0.02	0.25	113

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.03	4.03	0.01	0.12	—	0.12	0.11	—	0.11	—	599	599	0.02	< 0.005	—	601
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	108	108	0.01	0.02	0.01	113
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.11	< 0.005	0.03	—	0.03	0.03	—	0.03	—	164	164	0.01	< 0.005	—	165
Paving	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.04	0.03	< 0.005	< 0.005	1.33	1.33	< 0.005	0.13	0.13	—	29.6	29.6	< 0.005	< 0.005	0.03	31.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.2	27.2	< 0.005	< 0.005	—	27.3
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	4.91	4.91	< 0.005	< 0.005	< 0.005	5.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	4.22	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,026	1,026	0.01	0.04	2.66	1,041
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.59	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	509	509	0.03	0.08	0.98	534
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.27	3.57	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	973	973	0.01	0.04	0.07	985

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.61	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	509	509	0.03	0.08	0.03	534
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	271	271	< 0.005	0.01	0.32	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.12	146
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.05	45.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.1	23.1	< 0.005	< 0.005	0.02	24.2

3.12. Paving (2029) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.03	4.03	0.01	0.12	—	0.12	0.11	—	0.11	—	599	599	0.02	< 0.005	—	601
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.15	0.09	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	108	108	0.01	0.02	0.25	113
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.03	4.03	0.01	0.12	—	0.12	0.11	—	0.11	—	599	599	0.02	< 0.005	—	601
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	5.14	5.15	< 0.005	0.52	0.52	—	108	108	0.01	0.02	0.01	113
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.11	< 0.005	0.03	—	0.03	0.03	—	0.03	—	164	164	0.01	< 0.005	—	165
Paving	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.04	0.03	< 0.005	< 0.005	1.33	1.33	< 0.005	0.13	0.13	—	29.6	29.6	< 0.005	< 0.005	0.03	31.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.2	27.2	< 0.005	< 0.005	—	27.3
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.24	0.24	< 0.005	0.02	0.02	—	4.91	4.91	< 0.005	< 0.005	< 0.005	5.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	4.22	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,026	1,026	0.01	0.04	2.66	1,041
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.59	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	509	509	0.03	0.08	0.98	534
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.27	3.57	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	973	973	0.01	0.04	0.07	985
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.61	0.24	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	509	509	0.03	0.08	0.03	534
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	271	271	< 0.005	0.01	0.32	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.12	146
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.05	45.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.1	23.1	< 0.005	< 0.005	0.02	24.2

3.13. Architectural Coating (2029) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	13.7	17.5	0.04	0.54	—	0.54	0.49	—	0.49	—	4,351	4,351	0.18	0.04	—	4,366
Dust From Material Movement	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	9.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.71	1.72	< 0.005	0.17	0.17	—	36.0	36.0	< 0.005	0.01	0.08	37.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	13.7	17.5	0.04	0.54	—	0.54	0.49	—	0.49	—	4,351	4,351	0.18	0.04	—	4,366
Dust From Material Movement	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—

Architectu Coatings	9.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.71	1.72	< 0.005	0.17	0.17	—	36.1	36.1	< 0.005	0.01	< 0.005	37.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	3.76	4.79	0.01	0.15	—	0.15	0.14	—	0.14	—	1,192	1,192	0.05	0.01	—	1,196
Dust From Material Movement	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—	—	—	—
Architectu ral Coatings	2.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.44	0.44	< 0.005	0.04	0.04	—	9.88	9.88	< 0.005	< 0.005	0.01	10.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.69	0.87	< 0.005	0.03	—	0.03	0.02	—	0.02	—	197	197	0.01	< 0.005	—	198
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectu ral Coatings	0.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.64	1.64	< 0.005	< 0.005	< 0.005	1.71
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	4.22	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,026	1,026	0.01	0.04	2.66	1,041
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.27	3.57	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	973	973	0.01	0.04	0.07	985
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	271	271	< 0.005	0.01	0.32	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.05	45.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2029) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	13.7	17.5	0.04	0.54	—	0.54	0.49	—	0.49	—	4,351	4,351	0.18	0.04	—	4,366
Dust From Material Movement	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—

Architectu Coatings	9.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.71	1.72	< 0.005	0.17	0.17	—	36.0	36.0	< 0.005	0.01	0.08	37.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	13.7	17.5	0.04	0.54	—	0.54	0.49	—	0.49	—	4,351	4,351	0.18	0.04	—	4,366
Dust From Material Movement	—	—	—	—	—	0.55	0.55	—	0.06	0.06	—	—	—	—	—	—	—
Architectu ral Coatings	9.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.71	1.72	< 0.005	0.17	0.17	—	36.1	36.1	< 0.005	0.01	< 0.005	37.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	3.76	4.79	0.01	0.15	—	0.15	0.14	—	0.14	—	1,192	1,192	0.05	0.01	—	1,196
Dust From Material Movement	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—	—	—	—
Architectu ral Coatings	2.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.44	0.44	< 0.005	0.04	0.04	—	9.88	9.88	< 0.005	< 0.005	0.01	10.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.69	0.87	< 0.005	0.03	—	0.03	0.02	—	0.02	—	197	197	0.01	< 0.005	—	198

Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	0.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	1.64	1.64	< 0.005	< 0.005	< 0.005	1.71
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	4.22	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,026	1,026	0.01	0.04	2.66	1,041
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.27	3.57	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	973	973	0.01	0.04	0.07	985
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.03	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	271	271	< 0.005	0.01	0.32	274
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.8	44.8	< 0.005	< 0.005	0.05	45.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	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	6/14/2027	11/5/2027	5.00	105	—
Grading	Grading	11/8/2027	2/18/2028	5.00	75.0	—
Building Construction	Building Construction	2/21/2028	8/10/2029	5.00	385	—
Paving	Paving	8/13/2029	12/28/2029	5.00	100	—
Architectural Coating	Architectural Coating	8/13/2029	12/28/2029	5.00	100	—

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	2.00	6.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Site Preparation	Scrapers	Diesel	Average	3.00	6.00	423	0.48
Site Preparation	Off-Highway Tractors	Diesel	Average	2.00	6.00	38.0	0.44
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Grading	Skid Steer Loaders	Diesel	Average	1.00	7.00	71.0	0.37
Grading	Surfacing Equipment	Diesel	Average	1.00	6.00	399	0.30
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Pressure Washers	Diesel	Average	2.00	6.00	14.0	0.30
Grading	Cranes	Diesel	Average	2.00	6.00	367	0.29
Grading	Welders	Diesel	Average	4.00	6.00	46.0	0.45
Building Construction	Forklifts	Electric	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Aerial Lifts	Diesel	Average	8.00	8.00	46.0	0.31
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Forklifts	Electric	Average	1.00	8.00	82.0	0.20
Architectural Coating	Graders	Diesel	Average	1.00	8.00	148	0.41
Architectural Coating	Scrapers	Diesel	Average	2.00	6.00	423	0.48

Architectural Coating	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Architectural Coating	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Architectural Coating	Trenchers	Diesel	Average	1.00	6.00	40.0	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	2.00	6.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Site Preparation	Scrapers	Diesel	Average	3.00	6.00	423	0.48
Site Preparation	Off-Highway Tractors	Diesel	Average	2.00	6.00	38.0	0.44
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Grading	Skid Steer Loaders	Diesel	Average	1.00	7.00	71.0	0.37
Grading	Surfacing Equipment	Diesel	Average	1.00	6.00	399	0.30
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Pressure Washers	Diesel	Average	2.00	6.00	14.0	0.30
Grading	Cranes	Diesel	Average	2.00	6.00	367	0.29
Grading	Welders	Diesel	Average	4.00	6.00	46.0	0.45
Building Construction	Forklifts	Electric	Average	2.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37

Building Construction	Aerial Lifts	Diesel	Average	8.00	8.00	46.0	0.31
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Forklifts	Electric	Average	1.00	8.00	82.0	0.20
Architectural Coating	Graders	Diesel	Average	1.00	8.00	148	0.41
Architectural Coating	Scrapers	Diesel	Average	2.00	6.00	423	0.48
Architectural Coating	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Architectural Coating	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Architectural Coating	Trenchers	Diesel	Average	1.00	6.00	40.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	30.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	16.0	10.2	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	40.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	16.0	10.2	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	6.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	60.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	4.00	10.2	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	7.00	4.00	HHDT,MHDT
Paving	—	—	—	—
Paving	Worker	80.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	8.00	20.0	HHDT
Paving	Onsite truck	9.00	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	3.00	4.00	HHDT,MHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	30.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	16.0	10.2	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	40.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	16.0	10.2	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	6.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	60.0	18.5	LDA,LDT1,LDT2

Building Construction	Vendor	4.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	7.00	4.00	HHDT,MHDT
Paving	—	—	—	—
Paving	Worker	80.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	8.00	20.0	HHDT
Paving	Onsite truck	9.00	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	3.00	4.00	HHDT,MHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	57%	57%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	150,000	50,000	5,619

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	315	0.00	—
Grading	0.00	0.00	0.00	0.00	—
Paving	0.00	0.00	0.00	0.00	2.15
Architectural Coating	0.00	0.00	200	0.00	—

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

Land Use	Area Paved (acres)	% Asphalt
Research & Development	0.00	0%
Parking Lot	2.15	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	690	0.05	0.01
2028	196	690	0.05	0.01
2029	294	690	0.05	0.01

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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	69.6

AQ-PM	65.9
AQ-DPM	47.5
Drinking Water	92.5
Lead Risk Housing	—
Pesticides	0.00
Toxic Releases	70.0
Traffic	99.5
Effect Indicators	—
CleanUp Sites	94.3
Groundwater	36.9
Haz Waste Facilities/Generators	47.6
Impaired Water Bodies	77.3
Solid Waste	89.9
Sensitive Population	—
Asthma	8.92
Cardio-vascular	23.8
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—

Insured adults	—
Arthritis	0.0
Asthma ER Admissions	87.3
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	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	79.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
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	100.0
SLR Inundation Area	0.0
Children	99.4

Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.9
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses based off PD and updated site plan.
Construction: Construction Phases	Schedule provided by LADWP.
Construction: Off-Road Equipment	Equipment inventory provided by LADWP.
Construction: Dust From Material Movement	All earthwork balanced on-site.
Construction: Trips and VMT	Personnel & vehicle inventories provided by LADWP.
Construction: On-Road Fugitive Dust	Limit vehicle speeds on unpaved areas to 15 mph.

LADWP Headworks Project - DPR Demo Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LADWP Headworks Project - DPR Demo Construction
Construction Start Date	5/1/2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	20.2
Location	34.15343780699328, -118.31929069851039
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3974
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
Parking Lot	0.85	Acre	0.85	0.00	0.00	0.00	—	—

Research & Development	25.0	1000sqft	1.37	25,000	34,500	34,500	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-4*	Use Local and Sustainable Building Materials

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.85	22.5	31.6	0.06	0.88	11.4	11.7	0.81	1.65	2.45	—	7,533	7,533	0.30	0.17	3.46	7,594
Mit.	2.85	22.5	31.6	0.06	0.88	11.4	11.7	0.81	1.65	2.45	—	7,533	7,533	0.30	0.17	3.46	7,594
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.99	13.8	24.7	0.04	0.40	11.7	12.1	0.37	1.50	1.87	—	5,925	5,925	0.18	0.16	0.14	5,979
Mit.	2.99	13.8	24.7	0.04	0.40	11.7	12.1	0.37	1.50	1.87	—	5,925	5,925	0.18	0.16	0.14	5,979
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.14	6.28	9.53	0.02	0.20	3.64	3.84	0.18	0.50	0.69	—	2,289	2,289	0.09	0.06	0.62	2,310
Mit.	1.14	6.28	9.53	0.02	0.20	3.64	3.84	0.18	0.50	0.69	—	2,289	2,289	0.09	0.06	0.62	2,310
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.21	1.15	1.74	< 0.005	0.04	0.66	0.70	0.03	0.09	0.13	—	379	379	0.01	0.01	0.10	382
Mit.	0.21	1.15	1.74	< 0.005	0.04	0.66	0.70	0.03	0.09	0.13	—	379	379	0.01	0.01	0.10	382
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	2.85	22.5	31.6	0.06	0.88	11.4	11.7	0.81	1.65	2.45	—	7,533	7,533	0.30	0.17	3.46	7,594
2031	1.67	5.49	7.81	0.01	0.12	3.64	3.76	0.11	0.47	0.58	—	1,684	1,684	0.05	0.02	1.70	1,692
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	1.71	12.8	21.1	0.04	0.26	11.4	11.7	0.24	1.31	1.54	—	4,877	4,877	0.17	0.14	0.09	4,924
2031	2.99	13.8	24.7	0.04	0.40	11.7	12.1	0.37	1.50	1.87	—	5,925	5,925	0.18	0.16	0.14	5,979
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.83	6.28	9.53	0.02	0.20	3.64	3.84	0.18	0.50	0.69	—	2,289	2,289	0.09	0.06	0.50	2,310
2031	1.14	4.19	6.38	0.01	0.10	2.91	3.01	0.09	0.38	0.47	—	1,456	1,456	0.04	0.04	0.62	1,470
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.15	1.15	1.74	< 0.005	0.04	0.66	0.70	0.03	0.09	0.13	—	379	379	0.01	0.01	0.08	382
2031	0.21	0.76	1.16	< 0.005	0.02	0.53	0.55	0.02	0.07	0.09	—	241	241	0.01	0.01	0.10	243

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	2.85	22.5	31.6	0.06	0.88	11.4	11.7	0.81	1.65	2.45	—	7,533	7,533	0.30	0.17	3.46	7,594
2031	1.67	5.49	7.81	0.01	0.12	3.64	3.76	0.11	0.47	0.58	—	1,684	1,684	0.05	0.02	1.70	1,692
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	1.71	12.8	21.1	0.04	0.26	11.4	11.7	0.24	1.31	1.54	—	4,877	4,877	0.17	0.14	0.09	4,924

2031	2.99	13.8	24.7	0.04	0.40	11.7	12.1	0.37	1.50	1.87	—	5,925	5,925	0.18	0.16	0.14	5,979
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.83	6.28	9.53	0.02	0.20	3.64	3.84	0.18	0.50	0.69	—	2,289	2,289	0.09	0.06	0.50	2,310
2031	1.14	4.19	6.38	0.01	0.10	2.91	3.01	0.09	0.38	0.47	—	1,456	1,456	0.04	0.04	0.62	1,470
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2030	0.15	1.15	1.74	< 0.005	0.04	0.66	0.70	0.03	0.09	0.13	—	379	379	0.01	0.01	0.08	382
2031	0.21	0.76	1.16	< 0.005	0.02	0.53	0.55	0.02	0.07	0.09	—	241	241	0.01	0.01	0.10	243

3. Construction Emissions Details

3.1. Site Preparation (2030) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	8.08	12.2	0.03	0.33	—	0.33	0.31	—	0.31	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	0.41	0.41	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.07	0.04	< 0.005	< 0.005	4.56	4.56	< 0.005	0.46	0.46	—	46.7	46.7	< 0.005	0.01	0.11	48.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	1.00	1.51	< 0.005	0.04	—	0.04	0.04	—	0.04	—	366	366	0.01	< 0.005	—	367
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.53	0.53	< 0.005	0.05	0.05	—	5.76	5.76	< 0.005	< 0.005	0.01	6.02
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.18	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	60.6	60.6	< 0.005	< 0.005	—	60.8
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	—	0.95	0.95	< 0.005	< 0.005	< 0.005	1.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.49	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	379	379	< 0.005	0.01	0.89	384
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	226	226	0.01	0.03	0.54	236
Hauling	< 0.005	0.14	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	124	124	0.01	0.02	0.23	130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.9	44.9	< 0.005	< 0.005	0.05	45.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.8	27.8	< 0.005	< 0.005	0.03	29.1
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.01	16.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.44	7.44	< 0.005	< 0.005	0.01	7.53
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.81
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.53	2.53	< 0.005	< 0.005	< 0.005	2.66

3.2. Site Preparation (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	8.08	12.2	0.03	0.33	—	0.33	0.31	—	0.31	—	2,969	2,969	0.12	0.02	—	2,979
Dust From Material Movement	—	—	—	—	—	0.41	0.41	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.07	0.04	< 0.005	< 0.005	4.56	4.56	< 0.005	0.46	0.46	—	46.7	46.7	< 0.005	0.01	0.11	48.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.00	1.51	< 0.005	0.04	—	0.04	0.04	—	0.04	—	366	366	0.01	< 0.005	—	367
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.53	0.53	< 0.005	0.05	0.05	—	5.76	5.76	< 0.005	< 0.005	0.01	6.02
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.18	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	60.6	60.6	< 0.005	< 0.005	—	60.8
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	—	0.95	0.95	< 0.005	< 0.005	< 0.005	1.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.49	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	379	379	< 0.005	0.01	0.89	384
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	226	226	0.01	0.03	0.54	236
Hauling	< 0.005	0.14	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	124	124	0.01	0.02	0.23	130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.9	44.9	< 0.005	< 0.005	0.05	45.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.8	27.8	< 0.005	< 0.005	0.03	29.1
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.3	15.3	< 0.005	< 0.005	0.01	16.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.44	7.44	< 0.005	< 0.005	0.01	7.53
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.81
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.53	2.53	< 0.005	< 0.005	< 0.005	2.66

3.3. Grading (2030) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.74	21.7	29.8	0.06	0.87	—	0.87	0.80	—	0.80	—	6,484	6,484	0.26	0.05	—	6,507
Dust From Material Movement	—	—	—	—	—	2.26	2.26	—	0.94	0.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	5.70	5.70	< 0.005	0.57	0.57	—	58.3	58.3	< 0.005	0.01	0.13	61.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	2.67	3.67	0.01	0.11	—	0.11	0.10	—	0.10	—	799	799	0.03	0.01	—	802
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.66	0.66	< 0.005	0.07	0.07	—	7.20	7.20	< 0.005	< 0.005	0.01	7.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.49	0.67	< 0.005	0.02	—	0.02	0.02	—	0.02	—	132	132	0.01	< 0.005	—	133
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.24
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.49	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	379	379	< 0.005	0.01	0.89	384
Vendor	< 0.005	0.11	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	113	113	< 0.005	0.02	0.27	118
Hauling	0.01	0.57	0.23	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	497	497	0.02	0.08	0.90	522
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.9	44.9	< 0.005	< 0.005	0.05	45.5
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.01	14.5
Hauling	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.2	61.2	< 0.005	0.01	0.05	64.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.44	7.44	< 0.005	< 0.005	0.01	7.53
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.30	2.30	< 0.005	< 0.005	< 0.005	2.41
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.6

3.4. Grading (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.74	21.7	29.8	0.06	0.87	—	0.87	0.80	—	0.80	—	6,484	6,484	0.26	0.05	—	6,507

Dust From Material Movement	—	—	—	—	—	2.26	2.26	—	0.94	0.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	5.70	5.70	< 0.005	0.57	0.57	—	58.3	58.3	< 0.005	0.01	0.13	61.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	2.67	3.67	0.01	0.11	—	0.11	0.10	—	0.10	—	799	799	0.03	0.01	—	802
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.66	0.66	< 0.005	0.07	0.07	—	7.20	7.20	< 0.005	< 0.005	0.01	7.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.49	0.67	< 0.005	0.02	—	0.02	0.02	—	0.02	—	132	132	0.01	< 0.005	—	133
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.24
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	1.49	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	379	379	< 0.005	0.01	0.89	384
Vendor	< 0.005	0.11	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	113	113	< 0.005	0.02	0.27	118
Hauling	0.01	0.57	0.23	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	497	497	0.02	0.08	0.90	522

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	44.9	44.9	< 0.005	< 0.005	0.05	45.5
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.01	14.5
Hauling	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.2	61.2	< 0.005	0.01	0.05	64.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.44	7.44	< 0.005	< 0.005	0.01	7.53
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.30	2.30	< 0.005	< 0.005	< 0.005	2.41
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.6

3.5. Building Construction (2030) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.9	17.5	0.03	0.25	—	0.25	0.23	—	0.23	—	3,394	3,394	0.14	0.03	—	3,406
Onsite truck	< 0.005	0.15	0.09	< 0.005	< 0.005	10.3	10.3	< 0.005	1.03	1.03	—	105	105	0.01	0.01	0.24	110
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.9	17.5	0.03	0.25	—	0.25	0.23	—	0.23	—	3,394	3,394	0.14	0.03	—	3,406
Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	10.3	10.3	< 0.005	1.03	1.03	—	105	105	0.01	0.01	0.01	110

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.96	2.87	0.01	0.04	—	0.04	0.04	—	0.04	—	558	558	0.02	< 0.005	—	560
Onsite truck	< 0.005	0.03	0.01	< 0.005	< 0.005	1.59	1.59	< 0.005	0.16	0.16	—	17.3	17.3	< 0.005	< 0.005	0.02	18.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.36	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	92.4	92.4	< 0.005	< 0.005	—	92.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	2.86	2.86	< 0.005	< 0.005	< 0.005	2.99
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.20	3.96	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,010	1,010	0.01	0.04	2.37	1,024
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.40	177
Hauling	< 0.005	0.29	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.45	261
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.24	3.34	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	957	957	0.01	0.04	0.06	969
Vendor	< 0.005	0.18	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.01	177
Hauling	< 0.005	0.30	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.01	261
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.58	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	160	160	< 0.005	0.01	0.17	162
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.8	27.8	< 0.005	< 0.005	0.03	29.1
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.8	40.8	< 0.005	0.01	0.03	42.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.4	26.4	< 0.005	< 0.005	0.03	26.8

Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.81
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.76	6.76	< 0.005	< 0.005	0.01	7.09

3.6. Building Construction (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.9	17.5	0.03	0.25	—	0.25	0.23	—	0.23	—	3,394	3,394	0.14	0.03	—	3,406
Onsite truck	< 0.005	0.15	0.09	< 0.005	< 0.005	10.3	10.3	< 0.005	1.03	1.03	—	105	105	0.01	0.01	0.24	110
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.9	17.5	0.03	0.25	—	0.25	0.23	—	0.23	—	3,394	3,394	0.14	0.03	—	3,406
Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	10.3	10.3	< 0.005	1.03	1.03	—	105	105	0.01	0.01	0.01	110
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.96	2.87	0.01	0.04	—	0.04	0.04	—	0.04	—	558	558	0.02	< 0.005	—	560
Onsite truck	< 0.005	0.03	0.01	< 0.005	< 0.005	1.59	1.59	< 0.005	0.16	0.16	—	17.3	17.3	< 0.005	< 0.005	0.02	18.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.36	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	92.4	92.4	< 0.005	< 0.005	—	92.7
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	2.86	2.86	< 0.005	< 0.005	< 0.005	2.99

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.20	3.96	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	1,010	1,010	0.01	0.04	2.37	1,024
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.40	177
Hauling	< 0.005	0.29	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.45	261
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.24	3.34	0.00	0.00	1.05	1.05	0.00	0.25	0.25	—	957	957	0.01	0.04	0.06	969
Vendor	< 0.005	0.18	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	169	169	0.01	0.02	0.01	177
Hauling	< 0.005	0.30	0.12	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.01	261
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.58	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	160	160	< 0.005	0.01	0.17	162
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.8	27.8	< 0.005	< 0.005	0.03	29.1
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.8	40.8	< 0.005	0.01	0.03	42.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.4	26.4	< 0.005	< 0.005	0.03	26.8
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	< 0.005	4.81
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.76	6.76	< 0.005	< 0.005	0.01	7.09

3.7. Paving (2031) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	7.55	12.4	0.02	0.29	—	0.29	0.26	—	0.26	—	2,577	2,577	0.10	0.02	—	2,585
Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.19	0.11	< 0.005	< 0.005	6.29	6.29	< 0.005	0.63	0.63	—	125	125	0.01	0.02	0.01	130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.36	< 0.005	0.03	—	0.03	0.03	—	0.03	—	282	282	0.01	< 0.005	—	283
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.65	0.65	< 0.005	0.07	0.07	—	13.6	13.6	< 0.005	< 0.005	0.01	14.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.7	46.7	< 0.005	< 0.005	—	46.9
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	2.26	2.26	< 0.005	< 0.005	< 0.005	2.36
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.36	4.72	0.00	0.00	1.57	1.57	0.00	0.37	0.37	—	1,415	1,415	0.02	0.06	0.08	1,432
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	164	164	0.01	0.02	0.01	171
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.54	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	157	157	< 0.005	0.01	0.15	159
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.02	18.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.0	26.0	< 0.005	< 0.005	0.02	26.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	< 0.005	3.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2031) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	7.55	12.4	0.02	0.29	—	0.29	0.26	—	0.26	—	2,577	2,577	0.10	0.02	—	2,585

Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.01	0.01	—	—	—	—	—	—	—
Paving	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.01	0.19	0.11	< 0.005	< 0.005	6.29	6.29	< 0.005	0.63	0.63	—	125	125	0.01	0.02	0.01	130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.36	< 0.005	0.03	—	0.03	0.03	—	0.03	—	282	282	0.01	< 0.005	—	283
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	0.65	0.65	< 0.005	0.07	0.07	—	13.6	13.6	< 0.005	< 0.005	0.01	14.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.7	46.7	< 0.005	< 0.005	—	46.9
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	2.26	2.26	< 0.005	< 0.005	< 0.005	2.36
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.31	0.36	4.72	0.00	0.00	1.57	1.57	0.00	0.37	0.37	—	1,415	1,415	0.02	0.06	0.08	1,432
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	164	164	0.01	0.02	0.01	171
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.54	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	157	157	< 0.005	0.01	0.15	159
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.02	18.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.0	26.0	< 0.005	< 0.005	0.02	26.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	< 0.005	3.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2030) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	5.27	4.98	0.01	0.12	—	0.12	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.09	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	58.4	58.4	< 0.005	0.01	< 0.005	61.0

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.31	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.7	51.7	< 0.005	< 0.005	—	51.9
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.16	0.16	< 0.005	0.02	0.02	—	3.43	3.43	< 0.005	< 0.005	< 0.005	3.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.56	8.56	< 0.005	< 0.005	—	8.59
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.59
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	2.51	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	718	718	0.01	0.03	0.05	727
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	42.8	42.8	< 0.005	< 0.005	0.04	43.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.08	7.08	< 0.005	< 0.005	0.01	7.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Architectural Coating (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	5.27	4.98	0.01	0.12	—	0.12	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.09	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	58.4	58.4	< 0.005	0.01	< 0.005	61.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.31	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.7	51.7	< 0.005	< 0.005	—	51.9
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.16	0.16	< 0.005	0.02	0.02	—	3.43	3.43	< 0.005	< 0.005	< 0.005	3.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.56	8.56	< 0.005	< 0.005	—	8.59
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.59
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	2.51	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	718	718	0.01	0.03	0.05	727
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	42.8	42.8	< 0.005	< 0.005	0.04	43.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.08	7.08	< 0.005	< 0.005	0.01	7.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2031) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.25	4.98	0.01	0.11	—	0.11	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	56.5	56.5	< 0.005	0.01	0.12	59.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.25	4.98	0.01	0.11	—	0.11	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	56.6	56.6	< 0.005	0.01	< 0.005	59.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	3.13	2.96	0.01	0.07	—	0.07	0.06	—	0.06	—	524	524	0.02	< 0.005	—	526
Architectural Coatings	0.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.61	1.61	< 0.005	0.16	0.16	—	33.6	33.6	< 0.005	< 0.005	0.03	35.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.57	0.54	< 0.005	0.01	—	0.01	0.01	—	0.01	—	86.7	86.7	< 0.005	< 0.005	—	87.0

Architectural Coatings	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	5.57	5.57	< 0.005	< 0.005	0.01	5.83
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.15	2.78	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	746	746	0.01	< 0.005	1.58	749
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.18	2.36	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	707	707	0.01	0.03	0.04	716
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.11	1.47	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	427	427	< 0.005	0.02	0.41	433
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	70.7	70.7	< 0.005	< 0.005	0.07	71.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2031) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.25	4.98	0.01	0.11	—	0.11	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	56.5	56.5	< 0.005	0.01	0.12	59.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	5.25	4.98	0.01	0.11	—	0.11	0.11	—	0.11	—	881	881	0.04	0.01	—	884
Architectural Coatings	1.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.08	0.05	< 0.005	< 0.005	2.86	2.86	< 0.005	0.29	0.29	—	56.6	56.6	< 0.005	0.01	< 0.005	59.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	3.13	2.96	0.01	0.07	—	0.07	0.06	—	0.06	—	524	524	0.02	< 0.005	—	526
Architectural Coatings	0.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.05	0.03	< 0.005	< 0.005	1.61	1.61	< 0.005	0.16	0.16	—	33.6	33.6	< 0.005	< 0.005	0.03	35.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.57	0.54	< 0.005	0.01	—	0.01	0.01	—	0.01	—	86.7	86.7	< 0.005	< 0.005	—	87.0

Architectu Coatings	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	0.01	0.01	< 0.005	< 0.005	0.29	0.29	< 0.005	0.03	0.03	—	5.57	5.57	< 0.005	< 0.005	0.01	5.83
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.15	2.78	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	746	746	0.01	< 0.005	1.58	749
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.18	2.36	0.00	0.00	0.78	0.78	0.00	0.18	0.18	—	707	707	0.01	0.03	0.04	716
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.11	1.47	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	427	427	< 0.005	0.02	0.41	433
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	70.7	70.7	< 0.005	< 0.005	0.07	71.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	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	5/1/2030	7/2/2030	5.00	45.0	—
Grading	Grading	7/3/2030	9/3/2030	5.00	45.0	—
Building Construction	Building Construction	9/4/2030	11/26/2030	5.00	60.0	—
Paving	Paving	2/3/2031	3/28/2031	5.00	40.0	—
Architectural Coating	Architectural Coating	12/2/2030	10/31/2031	5.00	240	—

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	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37

Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	6.00	423	0.48
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Off-Highway Tractors	Diesel	Average	1.00	7.00	38.0	0.44
Building Construction	Forklifts	Electric	Average	3.00	7.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Aerial Lifts	Diesel	Average	6.00	7.00	46.0	0.31
Building Construction	Rubber Tired Loaders	Diesel	Average	1.00	7.00	150	0.36
Building Construction	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Building Construction	Skid Steer Loaders	Diesel	Average	1.00	7.00	71.0	0.37
Building Construction	Surfacing Equipment	Diesel	Average	1.00	6.00	399	0.30
Building Construction	Excavators	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Surfacing Equipment	Diesel	Average	1.00	7.00	399	0.30
Paving	Trenchers	Diesel	Average	1.00	7.00	40.0	0.50
Paving	Graders	Diesel	Average	1.00	8.00	148	0.41
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Forklifts	Electric	Average	4.00	8.00	82.0	0.20
Architectural Coating	Generator Sets	Diesel	Average	3.00	8.00	14.0	0.74
Architectural Coating	Welders	Diesel	Average	1.00	7.00	46.0	0.45

Architectural Coating	Aerial Lifts	Diesel	Average	3.00	7.00	46.0	0.31

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	6.00	423	0.48
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Off-Highway Tractors	Diesel	Average	1.00	7.00	38.0	0.44
Building Construction	Forklifts	Electric	Average	3.00	7.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Aerial Lifts	Diesel	Average	6.00	7.00	46.0	0.31
Building Construction	Rubber Tired Loaders	Diesel	Average	1.00	7.00	150	0.36
Building Construction	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Building Construction	Skid Steer Loaders	Diesel	Average	1.00	7.00	71.0	0.37
Building Construction	Surfacing Equipment	Diesel	Average	1.00	6.00	399	0.30
Building Construction	Excavators	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42

Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Surfacing Equipment	Diesel	Average	1.00	7.00	399	0.30
Paving	Trenchers	Diesel	Average	1.00	7.00	40.0	0.50
Paving	Graders	Diesel	Average	1.00	8.00	148	0.41
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Forklifts	Electric	Average	4.00	8.00	82.0	0.20
Architectural Coating	Generator Sets	Diesel	Average	3.00	8.00	14.0	0.74
Architectural Coating	Welders	Diesel	Average	1.00	7.00	46.0	0.45
Architectural Coating	Aerial Lifts	Diesel	Average	3.00	7.00	46.0	0.31

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	30.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	8.00	10.2	HHDT,MHDT
Site Preparation	Hauling	2.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	30.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	4.00	10.2	HHDT,MHDT
Grading	Hauling	8.00	20.0	HHDT
Grading	Onsite truck	5.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	80.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	6.00	10.2	HHDT,MHDT

Building Construction	Hauling	4.00	20.0	HHDT
Building Construction	Onsite truck	9.00	4.00	HHDT,MHDT
Paving	—	—	—	—
Paving	Worker	120	18.5	LDA,LDT1,LDT2
Paving	Vendor	6.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	11.0	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	60.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	5.00	4.00	HHDT,MHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	30.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	8.00	10.2	HHDT,MHDT
Site Preparation	Hauling	2.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	4.00	HHDT,MHDT
Grading	—	—	—	—
Grading	Worker	30.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	4.00	10.2	HHDT,MHDT
Grading	Hauling	8.00	20.0	HHDT
Grading	Onsite truck	5.00	4.00	HHDT,MHDT
Building Construction	—	—	—	—
Building Construction	Worker	80.0	18.5	LDA,LDT1,LDT2

Building Construction	Vendor	6.00	10.2	HHDT,MHDT
Building Construction	Hauling	4.00	20.0	HHDT
Building Construction	Onsite truck	9.00	4.00	HHDT,MHDT
Paving	—	—	—	—
Paving	Worker	120	18.5	LDA,LDT1,LDT2
Paving	Vendor	6.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	11.0	4.00	HHDT,MHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	60.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	5.00	4.00	HHDT,MHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	57%	57%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	37,500	12,500	2,222

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	67.5	0.00	—
Grading	0.00	0.00	113	0.00	—
Paving	0.00	0.00	20.0	0.00	0.85

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

Land Use	Area Paved (acres)	% Asphalt
Parking Lot	0.85	100%
Research & Development	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2030	648	690	0.05	0.01
2031	391	690	0.05	0.01

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	2	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	2	0	N/A
Wildfire	1	2	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	2	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	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	2	1	3
Wildfire	1	2	1	3
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	2	1	3

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

6.4.1. Temperature and Extreme Heat

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
MH-23: Landscape with Climate Considerations	Improved Ecosystem Health, Water Conservation	—	1.00	—

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	69.6
AQ-PM	65.9
AQ-DPM	47.5
Drinking Water	92.5
Lead Risk Housing	—
Pesticides	0.00
Toxic Releases	70.0
Traffic	99.5
Effect Indicators	—
CleanUp Sites	94.3
Groundwater	36.9
Haz Waste Facilities/Generators	47.6
Impaired Water Bodies	77.3
Solid Waste	89.9
Sensitive Population	—
Asthma	8.92
Cardio-vascular	23.8
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—

Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	87.3
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	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	79.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
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	100.0
SLR Inundation Area	0.0

Children	99.4
Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.9
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses based on PD and site plan.
Construction: Construction Phases	Construction schedule provided by LADWP.
Construction: Off-Road Equipment	Equipment inventory provided by LADWP.
Construction: Dust From Material Movement	All earthwork will be balanced on site.
Construction: On-Road Fugitive Dust	Limit vehicle speeds on unpaved roads to 15 mph (SCAQMD Rule 403).
Construction: Trips and VMT	Vehicle and personnel inventories provided by LADWP.

LADWP Headworks Project - Operations Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LADWP Headworks Project - Operations
Operational Year	2031
Lead Agency	LADWP
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	20.2
Location	34.15285671760434, -118.3170842391024
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3974
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
Research & Development	100	1000sqft	4.85	100,000	111,500	111,500	—	—

Research & Development	25.0	1000sqft	1.37	25,000	34,500	34,500	—	—
City Park	17.5	Acre	17.5	0.00	387,830	387,830	—	—
Parking Lot	6.00	Acre	6.00	0.00	13,000	13,000	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-34*	Provide Bike Parking
Energy	E-21*	Install Cool Pavements

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.54	1.26	11.5	0.01	0.07	0.94	1.01	0.06	0.24	0.30	124	7,018	7,142	13.2	0.40	5.11	7,597
Mit.	5.54	1.26	11.5	0.01	0.07	0.94	1.01	0.06	0.24	0.30	124	7,018	7,142	13.2	0.40	5.11	7,597
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.64	1.26	6.22	0.01	0.06	0.94	1.00	0.06	0.24	0.30	124	6,957	7,081	13.2	0.41	3.24	7,535
Mit.	4.64	1.26	6.22	0.01	0.06	0.94	1.00	0.06	0.24	0.30	124	6,957	7,081	13.2	0.41	3.24	7,535

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.24	1.29	9.96	0.01	0.06	0.93	1.00	0.06	0.24	0.30	124	6,983	7,106	13.2	0.41	4.02	7,561
Mit.	5.24	1.29	9.96	0.01	0.06	0.93	1.00	0.06	0.24	0.30	124	6,983	7,106	13.2	0.41	4.02	7,561
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.96	0.24	1.82	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	20.5	1,156	1,177	2.19	0.07	0.67	1,252
Mit.	0.96	0.24	1.82	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	20.5	1,156	1,177	2.19	0.07	0.67	1,252
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	3,000
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	Yes
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	Yes
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	3,000
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	Yes
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	Yes

2.5. Operations Emissions by Sector, Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.36	0.54	5.54	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,029	1,029	0.09	0.06	1.91	1,052
Area	4.15	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	5.54	1.26	11.5	0.01	0.07	0.94	1.01	0.06	0.24	0.30	124	7,018	7,142	13.2	0.40	5.11	7,597
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.35	0.59	5.65	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	990	990	0.10	0.07	0.05	1,012
Area	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	4.64	1.26	6.22	0.01	0.06	0.94	1.00	0.06	0.24	0.30	124	6,957	7,081	13.2	0.41	3.24	7,535
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.33	0.59	5.67	0.01	0.01	0.93	0.94	0.01	0.24	0.24	—	1,001	1,001	0.09	0.07	0.83	1,023
Area	3.87	0.03	3.72	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	5.24	1.29	9.96	0.01	0.06	0.93	1.00	0.06	0.24	0.30	124	6,983	7,106	13.2	0.41	4.02	7,561

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.24	0.11	1.03	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	166	166	0.02	0.01	0.14	169
Area	0.71	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Energy	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	828	828	0.06	0.01	—	832
Water	—	—	—	—	—	—	—	—	—	—	19.5	159	179	2.01	0.05	—	244
Waste	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.44
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	0.96	0.24	1.82	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	20.5	1,156	1,177	2.19	0.07	0.67	1,252

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.36	0.54	5.54	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,029	1,029	0.09	0.06	1.91	1,052
Area	4.15	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	5.54	1.26	11.5	0.01	0.07	0.94	1.01	0.06	0.24	0.30	124	7,018	7,142	13.2	0.40	5.11	7,597
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.35	0.59	5.65	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	990	990	0.10	0.07	0.05	1,012
Area	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472

Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	4.64	1.26	6.22	0.01	0.06	0.94	1.00	0.06	0.24	0.30	124	6,957	7,081	13.2	0.41	3.24	7,535
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.33	0.59	5.67	0.01	0.01	0.93	0.94	0.01	0.24	0.24	—	1,001	1,001	0.09	0.07	0.83	1,023
Area	3.87	0.03	3.72	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Energy	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	5,004	5,004	0.37	0.04	—	5,026
Water	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Waste	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Total	5.24	1.29	9.96	0.01	0.06	0.93	1.00	0.06	0.24	0.30	124	6,983	7,106	13.2	0.41	4.02	7,561
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.24	0.11	1.03	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	166	166	0.02	0.01	0.14	169
Area	0.71	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Energy	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	828	828	0.06	0.01	—	832
Water	—	—	—	—	—	—	—	—	—	—	19.5	159	179	2.01	0.05	—	244
Waste	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.44
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
Total	0.96	0.24	1.82	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	20.5	1,156	1,177	2.19	0.07	0.67	1,252

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.34	0.53	5.30	0.01	0.01	0.86	0.86	0.01	0.22	0.22	—	948	948	0.09	0.06	1.74	970
City Park	0.02	0.02	0.25	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	81.2	81.2	< 0.005	< 0.005	0.17	82.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.36	0.54	5.54	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,029	1,029	0.09	0.06	1.91	1,052
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.33	0.57	5.44	0.01	0.01	0.86	0.86	0.01	0.22	0.22	—	913	913	0.09	0.06	0.05	934
City Park	0.02	0.02	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	77.5	77.5	< 0.005	< 0.005	< 0.005	78.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.35	0.59	5.65	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	990	990	0.10	0.07	0.05	1,012
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.24	0.10	0.99	< 0.005	< 0.005	0.15	0.16	< 0.005	0.04	0.04	—	153	153	0.02	0.01	0.12	156
City Park	< 0.005	< 0.005	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	13.0	13.0	< 0.005	< 0.005	0.01	13.1
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.24	0.11	1.03	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	166	166	0.02	0.01	0.14	169

4.1.2. Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.34	0.53	5.30	0.01	0.01	0.86	0.86	0.01	0.22	0.22	—	948	948	0.09	0.06	1.74	970
City Park	0.02	0.02	0.25	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	81.2	81.2	< 0.005	< 0.005	0.17	82.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.36	0.54	5.54	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	1,029	1,029	0.09	0.06	1.91	1,052
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.33	0.57	5.44	0.01	0.01	0.86	0.86	0.01	0.22	0.22	—	913	913	0.09	0.06	0.05	934
City Park	0.02	0.02	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	77.5	77.5	< 0.005	< 0.005	< 0.005	78.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.35	0.59	5.65	0.01	0.01	0.94	0.95	0.01	0.24	0.25	—	990	990	0.10	0.07	0.05	1,012
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.24	0.10	0.99	< 0.005	< 0.005	0.15	0.16	< 0.005	0.04	0.04	—	153	153	0.02	0.01	0.12	156
City Park	< 0.005	< 0.005	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	13.0	13.0	< 0.005	< 0.005	0.01	13.1
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.24	0.11	1.03	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	166	166	0.02	0.01	0.14	169

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,766	3,766	0.27	0.04	—	3,784
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	433	433	0.03	< 0.005	—	435
Total	—	—	—	—	—	—	—	—	—	—	—	4,199	4,199	0.30	0.04	—	4,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,766	3,766	0.27	0.04	—	3,784
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	433	433	0.03	< 0.005	—	435
Total	—	—	—	—	—	—	—	—	—	—	—	4,199	4,199	0.30	0.04	—	4,219
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	624	624	0.04	0.01	—	626
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	71.7	71.7	0.01	< 0.005	—	72.0
Total	—	—	—	—	—	—	—	—	—	—	—	695	695	0.05	0.01	—	699

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,766	3,766	0.27	0.04	—	3,784
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	433	433	0.03	< 0.005	—	435
Total	—	—	—	—	—	—	—	—	—	—	—	4,199	4,199	0.30	0.04	—	4,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	3,766	3,766	0.27	0.04	—	3,784
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	433	433	0.03	< 0.005	—	435
Total	—	—	—	—	—	—	—	—	—	—	—	4,199	4,199	0.30	0.04	—	4,219
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	624	624	0.04	0.01	—	626
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	71.7	71.7	0.01	< 0.005	—	72.0
Total	—	—	—	—	—	—	—	—	—	—	—	695	695	0.05	0.01	—	699

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	134
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	134

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.67	0.57	< 0.005	0.05	—	0.05	0.05	—	0.05	—	805	805	0.07	< 0.005	—	807
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	134
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	134

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.89	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Total	4.15	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscap Equipment	0.11	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Total	0.71	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54

4.3.2. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.89	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Total	4.15	0.05	5.44	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.4	22.4	< 0.005	< 0.005	—	22.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.11	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Total	0.71	0.01	0.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	118	837	955	12.1	0.30	—	1,346
City Park	—	—	—	—	—	—	—	—	—	—	0.00	121	121	0.01	< 0.005	—	122
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	4.07	4.07	< 0.005	< 0.005	—	4.09
Total	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	118	837	955	12.1	0.30	—	1,346

City Park	—	—	—	—	—	—	—	—	—	—	0.00	121	121	0.01	< 0.005	—	122
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	4.07	4.07	< 0.005	< 0.005	—	4.09
Total	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	19.5	139	158	2.01	0.05	—	223
City Park	—	—	—	—	—	—	—	—	—	—	0.00	20.1	20.1	< 0.005	< 0.005	—	20.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.67	0.67	< 0.005	< 0.005	—	0.68
Total	—	—	—	—	—	—	—	—	—	—	19.5	159	179	2.01	0.05	—	244

4.4.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	118	837	955	12.1	0.30	—	1,346
City Park	—	—	—	—	—	—	—	—	—	—	0.00	121	121	0.01	< 0.005	—	122
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	4.07	4.07	< 0.005	< 0.005	—	4.09
Total	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	118	837	955	12.1	0.30	—	1,346

City Park	—	—	—	—	—	—	—	—	—	—	0.00	121	121	0.01	< 0.005	—	122
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	4.07	4.07	< 0.005	< 0.005	—	4.09
Total	—	—	—	—	—	—	—	—	—	—	118	962	1,080	12.1	0.30	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	19.5	139	158	2.01	0.05	—	223
City Park	—	—	—	—	—	—	—	—	—	—	0.00	20.1	20.1	< 0.005	< 0.005	—	20.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.67	0.67	< 0.005	< 0.005	—	0.68
Total	—	—	—	—	—	—	—	—	—	—	19.5	159	179	2.01	0.05	—	244

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	5.12	0.00	5.12	0.51	0.00	—	17.9
City Park	—	—	—	—	—	—	—	—	—	—	0.81	0.00	0.81	0.08	0.00	—	2.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	5.12	0.00	5.12	0.51	0.00	—	17.9
City Park	—	—	—	—	—	—	—	—	—	—	0.81	0.00	0.81	0.08	0.00	—	2.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	0.85	0.00	0.85	0.08	0.00	—	2.97
City Park	—	—	—	—	—	—	—	—	—	—	0.13	0.00	0.13	0.01	0.00	—	0.47
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.44

4.5.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	5.12	0.00	5.12	0.51	0.00	—	17.9
City Park	—	—	—	—	—	—	—	—	—	—	0.81	0.00	0.81	0.08	0.00	—	2.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	5.12	0.00	5.12	0.51	0.00	—	17.9
City Park	—	—	—	—	—	—	—	—	—	—	0.81	0.00	0.81	0.08	0.00	—	2.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	5.93	0.00	5.93	0.59	0.00	—	20.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	0.85	0.00	0.85	0.08	0.00	—	2.97
City Park	—	—	—	—	—	—	—	—	—	—	0.13	0.00	0.13	0.01	0.00	—	0.47
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.44

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53

4.6.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.19	3.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.53	0.53

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	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	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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	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

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	580	580	580	211,700	1,051	1,051	1,051	383,615

Research & Development	16.0	16.0	16.0	5,840	159	159	159	58,195
City Park	12.1	12.1	12.1	4,407	120	120	120	43,919
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	580	580	580	211,700	1,051	1,051	1,051	383,615
Research & Development	16.0	16.0	16.0	5,840	159	159	159	58,195
City Park	12.1	12.1	12.1	4,407	120	120	120	43,919
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	187,500	62,500	15,682

5.10.3. Landscape Equipment

Season	Unit	Value

Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	1,592,875	690	0.0489	0.0069	2,009,186
Research & Development	398,219	690	0.0489	0.0069	502,296
City Park	0.00	690	0.0489	0.0069	0.00
Parking Lot	228,951	690	0.0489	0.0069	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	1,592,875	690	0.0489	0.0069	2,009,186
Research & Development	398,219	690	0.0489	0.0069	502,296
City Park	0.00	690	0.0489	0.0069	0.00
Parking Lot	228,951	690	0.0489	0.0069	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	49,169,395	3,474,980
Research & Development	12,292,349	1,075,218
City Park	0.00	12,087,009
Parking Lot	0.00	405,155

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	49,169,395	3,474,980
Research & Development	12,292,349	1,075,218
City Park	0.00	12,087,009
Parking Lot	0.00	405,155

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	7.60	—
Research & Development	1.90	—
City Park	1.50	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	7.60	—
Research & Development	1.90	—
City Park	1.50	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	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	1	2	3	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	2	2	2
Wildfire	2	2	2	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	5	2	3	3

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	1	1	3	1
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	2	2	2
Wildfire	2	2	2	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	2	3	3

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

6.4.1. Temperature and Extreme Heat

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
EH-9: Expand Urban Tree Canopy	Energy and Fuel Savings, Improved Air Quality, Improved Public Health, Social Equity	1.00	1.00	—
MH-23: Landscape with Climate Considerations	Improved Ecosystem Health, Water Conservation	—	1.00	—

MH-39: Implement Pervious and Climate-Smart Surfaces	Energy and Fuel Savings, Improved Air Quality, Improved Ecosystem Health, Improved Public Health, Water Conservation	—	1.00	—

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	69.6
AQ-PM	65.9
AQ-DPM	47.5
Drinking Water	92.5
Lead Risk Housing	—
Pesticides	0.00
Toxic Releases	70.0
Traffic	99.5
Effect Indicators	—
CleanUp Sites	94.3
Groundwater	36.9
Haz Waste Facilities/Generators	47.6
Impaired Water Bodies	77.3
Solid Waste	89.9
Sensitive Population	—
Asthma	8.92
Cardio-vascular	23.8

Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—

Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	87.3
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	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	79.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0

Pedestrian Injuries	0.0
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	100.0
SLR Inundation Area	0.0
Children	99.4
Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.9
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	—

Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

Measure Title	Co-Benefits Achieved
PH-2: Increase Urban Tree Canopy and Green Spaces	Energy and Fuel Savings, Enhanced Energy Security, Improved Air Quality, Improved Ecosystem Health, Improved Public Health, Social Equity
IC-4: Enhanced Open and Green Spaces	Improved Ecosystem Health, Improved Public Health, Social Equity, Water Conservation

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses based on updated PD & site plan.
Operations: Vehicle Data	Trips from traffic memo: 608 total daily, 580 WQL, 159 DPR, 120 Park.
Operations: Fleet Mix	No medium or heavy-duty trucks for Park patrons.