RECIRCULATED
DRAFT EIR

FOR THE

NORTH MANTECA ANNEXATION #1 PROJECT

SEPTEMBER 1, 2023

Prepared for:

City of Manteca
Development Services
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Manteca, CA 95337
(209) 456-8500

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A Land Use Planning, Design, and Environmental Firm

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Chapters **Page Numbers**

Tables Page Numbers

Figures

Note: Figures are located at the end of the chapters.

Appendices

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INTRODUCTION

The City of Manteca, as the lead agency, determined that the proposed North Manteca Annexation #1 Project (proposed Project) is a "project" within the definition of CEQA. CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project that may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in either a direct physical change or a reasonably foreseeable indirect physical change in the environment and that is, among other things, an activity involving the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies (CEQA Guidelines Section 15378[a]).

The EIR contains a description of the proposed Project, a description of the environmental setting, an identification of Project environmental impacts, and mitigation measures for impacts found to be significant, as well as an analysis of Project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This EIR identifies issues determined to have no impact or a less than significant impact, and it also provides detailed analysis of potentially significant and significant environmental impacts. All public comments received in connection with the preparation of this EIR, including comments in response to Notices of Preparation (NOP) and public comments received in response to initial circulation of the Draft EIR and the first recirculated Draft EIR, were considered in preparing the analysis in this EIR. As noted, an initial Draft EIR was circulated for public review in September 2022, and a first recirculated Draft EIR was circulated for public review in April 2023. Following circulation of the first recirculated Draft EIR and receipt of public comment, the City decided to prepare a second recirculated Draft EIR.

PROJECT DESCRIPTION

The Project site is directly north of the City of Manteca's limit line adjacent to the Union Ranch development. The Project site is immediately west of State Route 99 (SR 99) and east of the Union Ranch Specific Plan Area. The Project site is bounded on the north by farmland, on the east by SR 99 Frontage Road, on the south by existing residences and agricultural fields, and on the west by Union Road and the Union Ranch Specific Plan.

The Project site includes several distinct planning boundaries defined below. The following terms are used throughout this document to describe planning area boundaries within the Project site:

- Annexation Area – includes the whole of the Project site (approximately 202.81 acres), including the approximate 175.67-acre Development Area, the approximate 27.14-acre Non-Development Area, and all public right-of-way along Union Road fronting the Development, all public right-of-way along SR 99 Frontage Road.
- Development Area - includes the parcels being annexed that will be entitled for subdivision and development. This includes the Union Ranch North Project Area (Subdivision 1) (approximately 106.04 acres) and the Stagecoach at M&E Project Area (Subdivision 2)

(approximately 69.63 acres). The two areas total (175.67 acres) and are further defined below.

- Union Ranch North Project Area is Subdivision 1 (approximately 106.04 acres) – includes the western portion of the Annexation and Development Area.
- Stagecoach at M&E Project Area is Subdivision 2 (approximately 69.93 acres) – includes the eastern portion of the Annexation and Development Area.

- Non-Development Area - includes the parcels being annexed that will not be entitled for subdivision or development. This includes three separate areas, each described as an Annexation SubArea. The three areas total (27.14 acres) and are further defined below:
  - Annexation SubArea 1 - 9.82 acres
  - Annexation SubArea 2 - 6.04 acres
  - Annexation SubArea 3 - 11.28 acres

The proposed Project is primarily a residential development anticipated to provide up to 915 residential units at full buildout. The Development Project would provide 10.66 acres of neighborhood parks, plus 3.45 acres of the continuation of the Tide Water Bike Trail. Total parkland is 14.55 acres. Other uses to support and compliment the proposed residential development include underground wet and dry utility infrastructure, roadways, curb/gutters/sidewalks, bicycle/pedestrian facilities, street lighting, and street signage.

The proposed Project will provide a variety of housing types and lot sizes that will accommodate a range of housing objectives and buyer needs with a goal to ensure housing for a variety of families and lifestyles. At full build-out, the Development Area will accommodate up to 915 residential units. Specifically, the proposed Project would include the development of up to 715 single family residential units, (410 units in Subdivision 1 and 305 units in Subdivision 2), and up to 200 multi-family residential units in Subdivision 1. The residential units would be split between the Union Ranch North portion of the Project (410 single family units and 200 multi-family units) and the Stagecoach at M&E portion of the Project (305 single family units). Development of housing will depend on market conditions and demand. Figure 2.0-8a and Figure 2.0-8b illustrate the two Project site plans.

The proposed Project includes 10.66 acres of neighborhood park, park/basin and open space and 3.45 acres of the continuation of the Tide Water Bike Trail. The total area of park space is 14.55 acres. After dedication to the City, the parks, parkways, and recreation facilities will be under the jurisdiction of the City, and will be operated and maintained by the City for the enjoyment of the residents of Manteca. Maintenance will be funded through a community facilities district.

The proposed Project will expand the existing circulation system to serve the proposed Project and northern Manteca. This includes construction of a new East-West Connector Street connecting Union Road with State Route 99 Frontage Road. This also includes the buildout of Union Road along the western side of the Project site. This section of Union Road is partially improved along the frontage of the Woodbridge Subdivision, and unimproved along the remaining portion of this roadway. Additionally, the proposed Project will provide sidewalks, bike lanes, and landscaping to offer additional bicycling and walking facilities for all of Manteca's residents. This includes the continuation of the Tide Water Bike Trail through the Project site. The Development Area and its circulation system is a natural progression of the existing developed land uses and the street network in northern Manteca.

The proposed Project includes an annexation of nineteen APNs totaling approximately 202.81 acres. This includes 175.67 acres for development (i.e., the Development Area), and 27.14 acres (i.e., the Non-Development Area) that is not proposed for development but is being annexed to avoid the creation of County islands. The Non-Development Area is located on nine APNs and the existing uses, which may become legal non-conforming, would be allowed to continue. Non-conforming uses include the existing agricultural uses (orchards, row crops, livestock/farm animal, fowl/poultry, apiary, etc.), and may include, depending on consistency with updated zoning, existing residences, existing outbuildings, equipment storage, roadways, irrigation, etc.

The proposed Project anticipates a Development Agreement that will be negotiated between the City and Applicant. Terms of the Development Agreement are not available at this early stage of review but will be required to be consistent with the environmental analysis, including any mitigation measures that are created to reduce impacts.

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the proposed Project that are known to the City of Manteca through its environmental analysis, were raised during the Project NOP process, were raised during preparation of the Draft EIR (including preparation of recirculated versions of the Draft EIR), or were raised in response to either the initial circulation of the Draft EIR or the first recirculated Draft EIR. Together, this Draft EIR discusses impacts associated with aesthetics and visual resources, agricultural resources, air quality, biological resources, biological resources, cultural and tribal resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use planning, noise, public services, traffic, utilities, and wildfire. Most of these topics were discussed in the initial Draft EIR for the Project; the remaining areas are addressed in the second recirculated Draft EIR.

The following are topics of public concern or potential controversy that have become known to the City based on public input, known regional issues, and staff observations:

- Project impacts to agricultural resources;
- Project impacts on regional stormwater, drainage, groundwater, and water quality;
- Climate change impacts related to potential volumes of channel flows expected to be in and along the South Delta Lower San Joaquin River System;
- Contaminated on-site soils due to the Project site's close proximity to roadways and historical past uses (i.e., agricultural);

- Demolition of on-site buildings or structures potentially containing lead-based paints, mercury, asbestos containing materials, and polychlorinated biphenyl caulk;
- Increased traffic on project area roadways including Union Road, and State highway facilities;
- Annexation of the existing residences located in the Non-development Area; and
- Agricultural manufacturing industries.

ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the Project or to the location of the Project which would reduce or avoid significant impacts, and which could feasibly accomplish the basic objectives of the proposed Project. Three alternatives to the proposed Project were developed based on input from City staff and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project.

- **No Project (No Build) Alternative**: Under this alternative, development of the Project site would not occur, and the Project site would remain in its current existing condition.
- **Increased Density Alternative:** Under this alternative, the proposed Project would be developed with the same amenities as described in the Project Description, but the density of the residential uses would be increased.
- **Agricultural Protection Alternative:** Under this alternative, the proposed Project would be developed in such a way to protect those lands currently identified as prime farmland and farmland of statewide importance, by reducing the overall footprint of the developed areas to a greater extent than the Increased Density Alternative.

Alternatives are described in detail in Chapter 5. Table ES-1 provides a comparison of the alternatives using a qualitative matrix that compares each of the alternatives' impacts to the proposed Project, as well as relative to each of the other Project alternatives (in parentheses).

TABLE ES-1: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	NO PROJECT (NO BUILD) ALTERNATIVE	INCREASED DENSITY ALTERNATIVE	AGRICULTURAL PROTECTION ALTERNATIVE
Aesthetics and Visual Resources	Less (Best)	Less (3rd Best)	Less (2nd Best)
Agricultural Resources	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Air Quality	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Biological Resources	Less (Best)	Less (3rd Best)	Less (2nd Best)
Cultural and Tribal Resources	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Geology and Soils	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Greenhouse Gases, Climate Change and Energy	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Hazards and Hazardous Materials	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Hydrology and Water Quality	Less (Best)	Less (3rd Best)	Less (2nd Best)
Land Use, Population, and Housing	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Noise	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Public Services and Recreation	Less (Best)	Less (3rd Best)	Less (2nd Best)
Transportation and Circulation	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Utilities	Less (Best)	Equal (3rd Best)	Less (2nd Best)

ENVIRONMENTAL ISSUE	NO PROJECT (NO BUILD) ALTERNATIVE	INCREASED DENSITY ALTERNATIVE	AGRICULTURAL PROTECTION ALTERNATIVE
Wildfire	Less (Best)	Equal (3rd Best)	Less (2nd Best)

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT
LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT
EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Agricultural Protection Alternative would be the environmentally superior alternative because all environmental issues would have reduced impacts compared to the Project. It is noted that neither the Agricultural Protection Alternative nor the Increased Density Alternative fully meet all of the Project objectives.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the significant effects of the proposed Project on the environment. The CEQA Guidelines define a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed Project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with regulations.

The environmental impacts of the proposed Project, the impact level of significance prior to mitigation, the proposed mitigation measures and/or adopted policies and standard measures that are already in place to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

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TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
AESTHETICS AND VISUAL RESOURCES			
Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character.	SU	*None feasible.*	SU
Impact 3.1-2: Project implementation may substantially damage scenic resources within a State Scenic Highway.	LS	*None required.*	--
Impact 3.1-3: Project implementation may result in light and glare impacts.	PS	*Conditions of Approval will require compliance with the Development Standards for lighting, landscaping, and building design, which would collectively minimize the visual impacts to the greatest extent feasible as the site transitions from agricultural to urban/suburban uses.*	LS
AGRICULTURAL RESOURCES			
Impact 3.2-1: The proposed Project has the potential to result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses.	PS	***Mitigation Measure 3.2-1:*** *Prior to the issuance of a Grading Permit, the Project applicant shall participate in the City's agricultural mitigation fee program and the SJMSCP by paying the established fees on a per-acre basis for the loss of important farmland. Fees paid toward the City's program shall be used to fund conservation easements on comparable or better agricultural lands to provide compensatory mitigation.*	SU
Impact 3.2-2: The proposed Project has the potential to conflict with existing zoning for agricultural use, or Williamson Act Contracts.	LS	*None required.*	--

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PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.2-3: The proposed Project has the potential to result in conflicts with adjacent agricultural lands or indirectly cause conversion of agricultural lands.	PS	***Mitigation Measure 3.2-2****: Prior to approval of the Tentative Subdivision Map the Project applicant shall demonstrate that the Project site plans include adequate measures to buffer adjacent agricultural uses from urban uses on the Project site and to reduce adverse impacts to neighboring agricultural uses; such measures shall include, but not be limited to:* - *The Project shall provide adequate and secure fencing at the interface of the Project site, or any individual phase of the Project, and adjacent agricultural uses.* - *The Project shall provide buffers, which may include parking areas, roadways and streets, drainage channels, and landscaped corridors, to buffer adjacent agricultural uses from the Project, including any individual phase of the Project, from proposed urban uses.* - *The Project shall provide notifications to all operators of uses on the Project site that are adjacent or in the vicinity of existing agricultural land of the City's Right-to-Farm Ordinance.*	LS
AIR QUALITY			
Impact 3.3-1: Project operation would result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan.	LS	*None Required.*	--
Impact 3.3-2: Proposed Project construction activities would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan.	LS	***Mitigation Measure 3.3-1:*** *Prior to the issuance of a Grading Permit for each phase of the Project, the Project Proponent shall prepare and submit a Dust Control Plan that meets all of the applicable requirements of APCD Rule 8021, Section 6.3, for the review and approval of the APCD Air Pollution Control Officer.* ***Mitigation Measure 3.3-2:*** *During all construction activities, the Project Proponent shall implement dust control measures, as required by APCD Rules 8011-8081, to limit Visible Dust Emissions to 20% opacity or less. Dust control measures shall include application of water or chemical dust suppressants to unpaved roads and graded areas, covering or stabilization of transported bulk materials, prevention of carryout or trackout of soil materials to public*	LS

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		roads, limiting the area subject to soil disturbance, construction of wind barriers, access restrictions to inactive sites as required by the applicable rules. ***Mitigation Measure 3.3-3:*** *During all construction activities, the Project proponent shall implement the following dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (2002).* *a. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.* *b. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.* *c. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall control fugitive dust emissions by application of water or by presoaking.* *d. When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained.* *e. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.* *f. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.* *g. Limit traffic speeds on unpaved roads to 5 mph.* *h. Install sandbags or other erosion control measures to prevent silt runoff to public*	

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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
		roadways from sites with a slope greater than one percent. ***Mitigation Measure 3.3-4:*** *Asphalt paving shall be applied in accordance with APCD Rule 4641, the purpose of which is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations. The Project Applicant shall coordinate with the APCD, prior to Project asphalt paving activities, to ensure all Project asphalt paving would comply with this rule. The Project Applicant shall provide the City of Manteca with evidence of consultation with the APCD, including confirmation of compliance with APCD Rule 4641.*	
Impact 3.3-3: The proposed Project would not generate carbon monoxide hotspot impacts.	LS	*None required.*	--
Impact 3.3-4: The proposed Project would not cause exposure to other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LS	*None required.*	--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
BIOLOGICAL RESOURCES			
Impact 3.4-1: The proposed Project has the potential to have a direct or indirect effect on special-status invertebrate species.	LS	*None required.*	--
Impact 3.4-2: The proposed Project has the potential to have direct or indirect effects on special-status reptile and amphibian species.	LS	*None required.*	--
Impact 3.4-3: The proposed Project has the potential to have direct or indirect effects on special-status bird species.	PS	***Mitigation Measure 3.4-1**: Prior to commencement of any grading activities, the Project proponent shall obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through implementation of incidental take and minimization Measures (ITMMs) and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.*	LS
Impact 3.4-4: The proposed Project has the potential to result in direct or indirect effects on special-status mammal species.	PS	*Implement **Mitigation Measure 3.4-1**.*	LS
Impact 3.4-5: The proposed Project has the potential for direct or indirect effects on candidate, sensitive, or special-status plant species.	LS	*None required.*	--
Impact 3.4-6: The proposed Project has the potential to effect protected wetlands and jurisdictional waters.	LS	*None required.*	--
Impact 3.4-7: The proposed Project has the potential to result in adverse effects on riparian habitat or a sensitive natural community.	LS	*None required.*	--
Impact 3.4-8: The proposed Project has the potential to result in interference with the	LS	*None required.*	--

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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
movement of native fish or wildlife species or with established wildlife corridors, or impede the use of native wildlife nursery sites.			
Impact 3.4-9: The proposed Project has the potential to conflict with an adopted Habitat Conservation Plan.	PS	*Implement* ***Mitigation Measure 3.4-1***.	LS
Impact 3.4-10: The proposed Project has the potential to conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	LS	*None required.*	--
Cultural and Tribal Resources			
Impact 3.5-1: Project implementation has the potential to cause a substantial adverse change to a significant historical or archaeological resource, as defined in CEQA Guidelines §15064.5	PS	***Mitigation Measure 3.5-1:*** *Prior to the initiation of any site disturbing activities, a training session for all workers shall be conducted at the site by a qualified archeologist. The training session will provide information on recognition of artifacts, human remains, and cultural deposits to help in the recognition of potential issues.* ***Mitigation Measure 3.5-2:*** *In concurrence with initial grading, contractors shall stop work in case of accidental discovery of buried archeological resources if buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or human bone, are inadvertently discovered during ground-disturbing activities. In such instances, work shall stop within 100 feet of the discovery, until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the city and other appropriate agencies. See implementation measure RC-1-46 of the city of Manteca General Plan 2023 policy document for further detail.* ***Mitigation Measure 3.5-3:*** *If any historical resources, cultural resources, including prehistoric or historic artifacts, or other indications of archaeological or paleontological resources, are found during grading and construction activities during any phase of the Project, all work shall be halted immediately within a 200-foot radius of the discovery until an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		Work shall not continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR; or 3) not a significant Public Trust Resource. *If Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American* Heritage *Commission, may also be required and, if required, shall be retained at the Project applicant's expense.*	
Impact 3.5-2: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries.	PS	***Mitigation Measure 3.5-4:*** *If human remains are discovered during the course of construction during any phase of the Project, work shall be halted at the site and at any nearby area reasonably suspected to overlie adjacent human remains until the San Joaquin County Coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are of Native American origin, either of the following steps will be taken:* • *The coroner shall contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner shall make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.* • *The landowner shall retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:* o *The Native American Heritage Commission is unable to identify a descendent.*	LS

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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
		o *The descendant identified fails to make a recommendation.* o *The City of Manteca or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*	
Impact 3.5-3: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or a resource determined by the lead agency.	LS	*None required.*	--
Geology and Soils			
Impact 3.6-1: The proposed Project may directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, strong seismic ground shaking, seismic related ground failure, or landslides.	PS	***Mitigation Measure 3.6-1****: Prior to issuance of a Grading Permit, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures, including threats from liquefaction or lateral spreading. The grading and improvement plans, as well as the storm drainage and building plans for each phase of the Project shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.6-2: Implementation and construction of the proposed Project may result in substantial soil erosion or the loss of topsoil.	PS	*Implement* ***Mitigation Measure 3.9-1.***	LS
Impact 3.6-3: The proposed project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse.	PS	*Implement* ***Mitigation Measure 3.6-1.***	LS
Impact 3.6-4: The proposed Project has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	PS	*Implement* ***Mitigation Measure 3.6-1.***	LS
Impact 3.6-5: The proposed Project does not have the potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water	LS	*None Required.*	--
Impact 3.6-6: The proposed Project has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	PS	***Mitigation Measure 3.6-2:*** *If any paleontological resources are found during grading and construction activities of the Project, all work shall be halted immediately within a 200-foot radius of the discovery until a qualified paleontologist has evaluated the find.* *Work shall not continue at the discovery site until the paleontologist evaluates the find and makes a determination regarding the significance of the resource and identifies recommendations for conservation of the resource, including preserving in place or relocating on the Project site, if feasible, or collecting the resource to the extent feasible and documenting the find with the University of California Museum of Paleontology.*	LS

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LCC – less than cumulatively considerable
LS – less than significant
PS – potentially significant
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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
GREENHOUSE GASES, CLIMATE CHANGE AND ENERGY			
Impact 3.7-1: Project implementation could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	PS	***Mitigation Measure 3.7-1:*** *Project applicants are prohibited from having natural gas water heaters, area heating, or clothing dryers, but are otherwise permitted to have natural gas in residential units for cooking and in community spaces. Any Project applicant whose application includes the installation of natural gas appliances or features shall provide a GHG offset analysis with its building permit application confirming that the GHG emissions related to the natural gas use would be offset by the installation of solar panels onsite.* ***Mitigation Measure 3.7-2****: The Project applicants shall meet the CalGreen Tier 2 standards as identified in the SMAQMD's Greenhouse Gas Thresholds for Sacramento County (June 2020), except that all "EV Capable" spaces shall be "EV Ready," as defined by CalGreen, consistent with the requirements of BMP 2 of Tier 1 of the SMAQMD's greenhouse gas thresholds.* ***Mitigation Measure 3.7-3****:* *a) **Project-Specific Requirements**. The Project applicants shall be required to reduce Project GHG emissions to the maximum extent feasible by incorporating the following onsite measures in addition to implementing Mitigation Measures 3.7-1 and 3.7-2:* *a) Construction Emissions. Prior to the issuance of grading permits, the Project sponsor or its designee shall provide evidence to the City of Manteca that the following strategies are implemented:* *i. Use electric or hybrid powered equipment for generators and other small pieces of equipment (e.g., forklifts and saws), as commercially available.* *ii. Use cleaner-fuel equipment such as replacing diesel fuel with compressed natural gas (CNG) or renewable diesel, as commercially available.* *iii. Reduce idling time of heavy-duty trucks either by shutting them off when not in use or reducing the time of idling to no more than 3 minutes (5-*	SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		minute limit is required by the state airborne toxics control measure 13 CCR 2485). *Commercially available equipment is herein defined as equipment sourced within 50 vehicle miles of the Project site and within 10% of the cost of the diesel-fueled-equivalent equipment. The Project Applicant must contact at least 3 contractors or vendors within San Joaquin County and submit to the City justification if the specified equipment is not commercially available.* *b) Operational Emissions.* *i. Require Energy Efficient Appliances. Prior to the issuance of building permits, the Project sponsor or its designee shall provide evidence to the City that exclusively ENERGY STAR-certified appliances shall be installed, which exceed the energy efficiency of conventional appliances.* *ii. Outdoor Electrical Outlets. Prior to the issuance of building permits, the Project sponsor or its designee shall provide evidence to the City of Manteca that the design plans include electrical outlets in the front and rear of the structure to facilitate use of electrical lawn and garden equipment.* *iii. Tree Planting. Prior to the applicable certificates of occupancy, the Project sponsor or its designee shall plant, at a minimum, one tree per every new residential dwelling unit proposed. Tree species should be black or valley oak, or another broad leaf species with at least an equivalent carbon sequestration rate. The Project sponsor shall demonstrate that at least 75% of species planted are native to California or drought tolerant and appropriate for the climate zone region. These trees can be planted roadside, in medians, or in other commonly landscaped areas.* *iv. Water Use Efficiency and Water Conservation. Prior to the issuance of building permits, the Project sponsor or its designee shall provide evidence*	

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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
		to the City that the residential building design plans include the following water use efficiency and conservation measures, including: • *High-efficiency appliances/fixtures to reduce water use, and/or include water-efficient landscape design* • *Low-flow or high-efficiency water fixtures* • *Water-efficient landscapes with lower water demands than required by the California Department of Water Resources (DWR) 2015 Model Water Efficient Landscape Ordinance (MWELO)* • *Planting of drought-tolerant plant species only* • *Provide a copy of the educational materials that will be provided to future homeowners and tenants about water saving behaviors and water-conserving landscaping with sales material for City review.* • *Installation of piping to allow future use of reclaimed water for landscaping purposes in all park areas.* *v. Circulation. The Project sponsor or its designee shall include the following features to reduce VMT:* • *Install sidewalks and crosswalks where appropriate and consistent with City requirements.* • *Install new or improved bicycle paths and bicycle racks at community destination locations such as parks and community recreation areas.* • *Sales and rental packets shall include information about local public transit, including links to the ACE and Manteca Transit websites and a list of services that match riders and drivers for ridesharing and carpooling.* *In addition to the above, on-site measures, if additional to reductions accounted for in the CAP and/or CAP Update, the Project would provide the City with up to four EV charging stations at one or more City facilities based on the City's need and to the extent resulting in quantifiable reductions,*	

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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
		which would further reduce GHG emissions. b) ***Compliance with CAP Update**. While the CAP Update is currently being prepared, it is anticipated that the CAP Update will ultimately establish policies, programs, standards, and requirements for government, private industry, and the public to achieve the goals laid out in state law and the 2022 Scoping Plan. Once the CAP Update is adopted, the portions of the Project that would be subject to the requirements of the CAP Update would comply with applicable CAP Update measures.* *Implement **Mitigation Measures 3.7-1 through 3.7-3.***	
Impact 3.7-2: Project implementation could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	PS	*Implement **Mitigation Measures 3.7-1 through 3.7-3.***	SU
Impact 3.7-2: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources.	LS	*None required.*	--
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.8-1: Potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	PS	***Mitigation Measure 3.8-1**: Prior to the issuance of a Grading Permit, a Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health. The SMP shall establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. The approved SMP shall be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.* ***Mitigation Measure 3.8-2**: Prior to the acceptance of improvements, the applicant shall hire a licensed well contractor to obtain a well abandonment permit from San Joaquin County Environmental Health Department, and properly abandon the on-site wells, pursuant to*	LS

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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
		review and approval of the City Engineer and the San Joaquin County Environmental Health Department. ***Mitigation Measure 3.8-3***: *The applicant shall hire a qualified consultant to perform additional testing prior to the issuance of grading permits or demolition permits for construction activities in the following areas that have been deemed to have potentially hazardous conditions present:* • *The residential units and adjoining structures.* • *The soils in the area where farming equipment and above ground tanks have been used.* *The intent of the additional testing is to investigate whether any of the buildings, facilities, or soils contain hazardous materials. If asbestos-containing materials and/or lead are found in the buildings, a Cal-OSHA certified ACBM and lead based paint contractor shall be retained to remove the asbestos-containing materials and lead in accordance with EPA and California Occupational Safety and Health Administration (Cal/OSHA) standards. In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Cal/OSHA asbestos and lead worker construction standards. The ACBM and lead shall be disposed of properly at an appropriate offsite disposal facility. If surface staining is found on the Project site, a hazardous waste specialist shall be engaged to further assess the stained area.*	
Impact 3.8-2: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LS	*None required.*	--
Impact 3.8-3: Potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.	LS	*None required.*	--
Impact 3.8-4: Potential for the Project to result in a safety hazards for people residing or working on	LS	*None required.*	--

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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
the project site as a result of public airport or public use airport.			
Impact 3.8-5: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS	*None required.*	--
Impact 3.8-6: Potential to expose people or structures to a risk of loss, injury or death from wildland fires.	LS	*None required.*	--
HYDROLOGY AND WATER QUALITY			
Impact 3.9-1: The proposed Project has the potential to violate water quality standards or waste discharge requirements during construction.	PS	***Mitigation Measure 3.9-1:*** *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation for each phase of the Project, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Manteca and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*	LS
Impact 3.9-2: The proposed Project has the potential to violate water quality standards or waste discharge requirements during operation.	PS	***Mitigation Measure 3.9-2****: The Project applicant shall implement the following nonstructural BMPs that focus on preventing pollutants from entering stormwater:* • *Pollution Prevention/Good Housekeeping*	LS

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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
		o *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation in each phase of the Project, the Project proponent shall develop a spill response and prevention plan as a component of (1) SWPPPs prepared for construction activities, (2) SWPPPs for facilities subject to the NPDES Stormwater Permit, and (3) spill prevention control and countermeasure plans for qualifying facilities. The spill response and prevention plan shall be implemented during all construction activities.* o *Streets and parking lots in all non-residential portions, including the right-of-way, of the Project site shall be swept at least once every two weeks.* • *Operation and Maintenance (O&M) of Treatment Controls* o *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation in each phase of the Project, the Project proponent shall develop an Operation and Maintenance (O&M) Plan for the storm drainage facilities to ensure long-term performance. The O&M plan shall incorporate the manufacturers' recommended maintenance procedures and include (1) provisions for debris removal, (2) guidance for addressing public health or safety issues, and (3) methods and criteria for assessing the efficacy of the storm drainage system. An annual report shall be submitted to the City certifying that maintenance of the facilities was conducted according to the O&M plan.* ***Mitigation Measure 3.9-3****: The Project applicant shall implement the following structural BMPs that focus on preventing pollutants from entering stormwater, or alternative BMPs approved by the City of Manteca. Implementation of BMPs apply to all non-residential parcels, including the right-of-way, as appropriate.* • *Extended Detention Facilities: Extended detention refers to the facilities proposed for the Project site that would detain and temporarily store stormwater runoff to*	

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		reduce the peak rates of discharge to the storm drainage system. Detention of stormwater allows particles and other pollutants to settle and thereby potentially reduce concentrations and mass loading of contaminants in the discharge. • *Grassed Swales: A swale is a vegetated, open channel management practice designed to treat and attenuate stormwater runoff for a specified water quality volume. Stormwater runoff flowing through these channels is treated by being filtered through vegetation in the channel, through a subsoil matrix, and/or through infiltration into the underlying soils. Swales can be used throughout the proposed Project area where feasible in the landscape design to treat parking lot runoff.* • *Proprietary Devices: There are a variety of commercially available stormwater treatment devices designed to remove contaminants from drainage once flows enter the conveyance systems. StormFilter™ units, or equivalent filtration-type systems, and Bioswales are recommended for streets and parking areas. Drop inlet filters should also be used to control drainage runoff water quality.*	
Impact 3.9-3: The proposed Project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge.	LS	*None required.*	--
Impact 3.9-4: The proposed Project has the potential to alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, or polluted runoff.	LS	*None required.*	--
Impact 3.9-5 The proposed Project has the potential to otherwise substantially degrade water quality.	LS	*Implement* ***Mitigation Measure 3.6-1*** *and* ***Mitigation Measures 3.9-1 and 3.9-2.***	--
Impact 3.9-6 Place housing or structures that would impede/redirect flows within a 100-year, or 200-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood	LS	*None required.*	--

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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
Insurance Rate Map or other flood hazard delineation map.			
Impact 3.9-7 The proposed Project has the potential to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, seiche, tsunami, or mudflow.	LS	*None required.*	--
Land Use and Population			
Impact 3.10-1: The proposed Project would not physically divide an established community.	LS	*None required.*	--
Impact 3.10-2: The proposed Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project adopted to avoid or mitigate an environmental effect.	LS	*None required.*	--
Impact 3.10-3: The proposed Project would not significantly conflict with an applicable habitat conservation plan or natural community conservation plan.	LS	*None required.*	--
Impact 3.10-4: The proposed Project has the potential to induce substantial population growth in an area.	LS	*None required.*	--
Impact 3.10-5: The proposed Project has the potential to displace substantial numbers of people or existing housing.	LS	*None required.*	--
Noise			
Impact 3.11-1: The proposed Project may generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in	PS	***Mitigation Measure 3.11-1a:*** *Construction activities shall adhere to the requirements of the City of Manteca Municipal Code with respect to hours of operation. This requirement shall be noted in the improvements plans prior to approval by the City's Public Works Department.*	LS

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
the local general plan or noise ordinance, or applicable standards of other agencies.		***Mitigation Measure 3.11-1b:*** *All equipment shall be fitted with factory equipped mufflers, and in good working order. This requirement shall be noted in the improvements plans prior to approval by the City's Public Works Department.* ***Mitigation Measure 3.11-2:*** *An 8-foot tall barrier shall be constructed along the Union Road Frontage, adjacent to proposed Project residential uses, in order to achieve the City's exterior noise standards. Noise barrier walls shall be constructed of concrete panels, concrete masonry units, earthen berms, or any combination of these materials that achieve the required total height. Wood is not recommended due to eventual warping and degradation of acoustical performance. These requirements shall be included in the improvements plans prior to their approval by the City's Public Works Department. Figure 3.11-2 shows the recommended sound wall locations. It should be noted that this noise control measure could be phased, under the condition that a supplemental analysis were to be conducted that demonstrates that interim phases would meet the City's noise standards without full Project buildout.* ***Mitigation Measure 3.11-3:*** *A 16-foot tall barrier shall be constructed along the boundary of the proposed residential uses and Highway 99, in order to achieve the City's exterior noise standards. The barriers may gradually transition from the 16-foot height down to a final height of 8-feet for the sections of wall wrapping towards the west, as shown on Figure 3.10-3 of the Noise Report (see Appendix D of this EIR). Noise barrier walls shall be constructed of concrete panels, concrete masonry units, earthen berms, or any combination of these materials that achieve the required total height. Wood is not recommended due to eventual warping and degradation of acoustical performance. These requirements shall be included in the improvements plans prior to their approval by the City's Public Works Department. Figure 3.10-3 of the Noise Report shows the recommended sound wall locations. It should be noted that this noise control measure could be phased, under the condition that a supplemental analysis were to be conducted that demonstrates that interim phases would meet the City's noise standards without full Project buildout.* ***Mitigation Measure 3.11-4:*** *For the first rows of lots on the Union Ranch North subdivision adjacent to the Union Road right of way, second floor exterior facades with a view of Union Road would need the following noise control measures:*	

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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
		• *Windows shall have a sound transmission class (STC) rating of 34,* • *Interior gypsum at exterior walls shall be 5/8”;* • *Ceiling gypsum shall be 5/8”;* • *Exterior finish shall be stucco, fiber cement lap siding, or system with equivalent weight per square foot;* • *Mechanical ventilation shall be installed in all residential uses to allow residents to keep doors and windows closed, as desired for acoustical isolation.* • *As an alternative to the above-listed interior noise control measures, the applicant may provide a detailed analysis of interior noise control measures once building plans become available. The analysis should be prepared by a qualified noise control engineer and shall outline the specific measures required to meet the City of Manteca 45 dB Ldn interior noise level standard.* ***Mitigation Measure 3.11-5:*** *For the first rows of lots on the Stagecoach M&E subdivision adjacent to the Highway 99 and Highway 99 Frontage Road right of way, second floor exterior facades with a view of Highway 99 would need the following noise control measures:* • *Windows shall have a sound transmission class (STC) rating of 40.* • *Interior gypsum at exterior walls shall be 5/8” hung on resilient channels;* • *Ceiling gypsum shall be 5/8”;* • *Exterior finish shall be stucco with sheathing, fiber cement lap siding with sheathing, or system with equivalent weight per square foot;* • *Mechanical ventilation shall be installed in all residential uses to allow residents to keep doors and windows closed, as desired for acoustical isolation.* • *As an alternative to the above-listed interior noise control measures, the applicant may provide a detailed analysis of interior noise control measures once building plans become available. The analysis should be prepared by a qualified noise control engineer and shall outline the specific measures required to meet the City of Manteca 45 dB L_{dn} interior noise level standard.*	

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		Mitigation Measure 3.11-6: *A 12-foot-tall barrier shall be constructed along the south boundary of the Stagecoach at M&E Project site, adjacent to the George Perry & Sons agricultural operations, in order to achieve the City's exterior noise standards. Noise barrier walls shall be constructed of concrete panels, concrete masonry units, earthen berms, or any combination of these materials that achieve the required total height. Wood is not recommended due to eventual warping and degradation of acoustical performance. These requirements shall be included in the improvements plans prior to their approval by the City's Public Works Department. Figure 3.11-3 shows the recommended sound wall locations. It should be noted that this noise control measure could be phased, under the condition that a supplemental analysis were to be conducted that demonstrates that interim phases would meet the City's noise standards without full Project buildout.*	
Impact 3.11-2: The proposed Project would not generate excessive groundborne vibration or groundborne noise levels.	PS	***Mitigation Measure 3.11-7****: Any compaction required less than 26 feet from the adjacent residential structures shall be accomplished by using static drum rollers which use weight instead of vibrations to achieve soil compaction. As an alternative to this requirement, pre-construction crack documentation and construction vibration monitoring could be conducted to ensure that construction vibrations do not cause damage to any adjacent structures.*	LS
Impact 3.11-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.	LS	*None required.*	--
PUBLIC SERVICES AND RECREATION			
Impact 3.12-1: The proposed Project has the potential to require the construction of police department facilities which may cause substantial adverse physical environmental impacts.	LS	*None required.*	--

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Environmental Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.12-2: The proposed Project has the potential to require the construction of fire department facilities which may cause substantial adverse physical environmental impacts.	LS	*None required.*	--
Impact 3.12-3: The proposed Project has the potential to require the construction of school facilities which may cause substantial adverse physical environmental impacts.	LS	*None required.*	--
Impact 3.12-4: The proposed Project has the potential to have effects on other public facilities.	LS	*None required.*	--
Impact 3.12-5: The proposed Project has the potential to require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts.	LS	*None required.*	--
Impact 3.12-6: The proposed Project has the potential to increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated.	LS	*None required.*	--
Transportation and Circulation			
Impact 3.13-1: Project implementation would not result in VMT increases that are greater than 85 percent of Baseline conditions.	PS	***Mitigation Measure 3.13-1**: As feasible, and where applicable at the improvement plan stage of development, as determined through consultation between the Project applicant and the City of Manteca, the Project applicant shall implement the following measures, which are identified in the CAPCOA Draft Handbook for Analyzing Greenhouse Gas (GHG) Emission Reductions, assessing Climate Vulnerabilities, and Advancing Health and Equity (GHG Handbook):* • *Increase residential density;* • *Limit residential parking supply;*	SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		• *Unbundle residential parking cost from property cost;* • *Provide access to transit (Transit Oriented Development);* • *Improve street connectivity;* • *Provide ride-share program;* • *Implement subsidized or discounted transit program;* • *Provide end-of-trip bicycle facilities;* • *Provide community-based travel planning;* • *Implement market price public on-street parking;* • *Provide pedestrian network improvement;* • *Construct or improve bike facility;* • *Construct or improve bike boulevard;* • *Expand bikeway network;* • *Implement conventional or electric carshare program;* • *Implement pedal or electric bikeshare program;* • *Implement scooter-share program;* • *Extend transit network coverage or hours;* • *Increase transit service frequency;* • *Implement transit-supportive roadway treatments;* • *Reduce Transit Fares*	
Impact 3.13-2: Project implementation may conflict with a program, plan, policy or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities.	LS	*None required.*	--
Impact 3.13-3: Project implementation may increase hazards due to a design feature, incompatible uses, or inadequate emergency access.	LS	*None required.*	--
UTILITIES			
Impact 3.14-1: The proposed Project would not result in a determination by the wastewater treatment provider which serves or may serve the	LS	*None required.*	--

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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
Project that it does not have adequate capacity to serve the project's projected demand in addition to the providers existing commitments.			
Impact 3.14-2: The proposed Project would not require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects.	LS	*None required.*	--
Impact 3.14-3: The proposed Project has the potential to require or result in the construction of new water treatment facilities or expansion of existing water facilities, the construction of which could cause significant environmental effects.	LS	*None required.*	--
Impact 3.14-4: The proposed Project has the potential to have insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years.	LS	*None required.*	--
Impact 3.14-5: The proposed Project has the potential to require or result in the construction of new stormwater drainage facilities, the construction of which could cause significant environmental effects.	LS	***Mitigation Measure 3.14-1**: Prior to the issuance of a building or grading permit, the Project applicant shall submit a drainage plan to the City of Manteca for review and approval. The plan shall include an engineered storm drainage plan that demonstrates attainment of pre-Project runoff requirements prior to discharge and describes the treatment controls used to reach attainment consistent with the Manteca Storm Drain Master Plan.*	--
Impact 3.14-6: The proposed Project has the potential to be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs and comply with federal, State, and local statutes and regulations related to solid waste.	PS	***Mitigation Measure 3.14-2**: Prior to the issuance of a building or grading permit for each phase of the Project, the Project applicant shall pay the City's waste collection fee which equates to the Project's fair share contribution, consistent with section 13.02.050, Charges for solid waste collection services, of the City's municipal code.*	LS
WILDFIRES			

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Impact 3.15-1: Project implementation would not have a significant impact related to wildfire risks associated with lands in or near State Responsibility Areas or lands classified as very high fire hazard severity zones.	LS	*None required.*	--
CUMULATIVE IMPACTS			
Impact 4.1: Cumulative Damage to Scenic Resources within a State Scenic Highway	LS and LCC	*None required.*	--
Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region	PS	*None feasible.*	CC and SU
Impact 4.3: Cumulative Impact on Light and Glare	LS and LCC	*None required.*	--
Impact 4.4: Cumulative Impact on Agricultural Resources	PS	*Implement **Mitigation Measure 3.2-1**.*	CC and SU
Impact 4.5: Cumulative Impact on the Region's Air Quality	LS and LCC	*None required.*	--
Impact 4.6: Cumulative Loss of Biological Resources Including Habitats and Special Status Species	LS and LCC	*None required.*	--
Impact 4.7: Cumulative Impacts on Known and Undiscovered Cultural and Tribal Resources	LS and LCC	*None required.*	--
Impact 4.8: Cumulative Impact on Geologic and Soils Resources	LS and LCC	*None required.*	--
Impact 4.9: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions	PS	*Implement **Mitigation Measures 3.7-1 through 3.7-3.***	CC and SU
Impact 4.10: Cumulative Impact Related to Hazards and Hazardous Materials	LS and LCC	*None required.*	--
Impact 4.11: Cumulative Increases in Peak Stormwater Runoff from the Project site	LS and LCC	*None required.*	--
Impact 4.12: Cumulative Impacts Related to Degradation of Water Quality	LS and LCC	*None required.*	--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge	LS and LCC	*None required.*	--
Impact 4.14: Cumulative Impacts Related to Flooding	LS and LCC	*None required.*	--
Impact 4.15: Cumulative Impact on Communities and Local Land Uses	LS and LCC	*None required.*	--
Impact 4.16: Cumulative Impacts on Population and Housing	LS and LCC	*None required.*	--
Impact 4.17: Cumulative Exposure of Existing and Future Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development	PS	*Implement **Mitigation Measures 3.11-1 to 3.11-7.***	LS and LCC
Impact 4.18: Cumulative Impact on Public Services and Recreation	LS and LCC	*None required.*	--
Impact 4.19: Under Cumulative conditions, Project implementation would not result in VMT increases that are greater than 85 percent of Baseline conditions	PS	*Implement **Mitigation Measures 3.13-1.***	CC and SU
Impact 4.20: Under Cumulative conditions, the proposed Project would not conflict with a program, plan, policy or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities	LS and LCC	*None required.*	--
Impact 4.21: Cumulative Impact on Wastewater Utilities	LS and LCC	*None required.*	--
Impact 4.22: Cumulative Impact on Water Utilities	LS and LCC	*None required.*	--
Impact 4.23: Cumulative Impact on Stormwater Facilities	LS and LCC	*None required.*	--
Impact 4.24: Cumulative Impact on Solid Waste Facilities	LS and LCC	*None required.*	--
Impact 4.25: Cumulative impact related to wildfire	LS and LCC	*None required.*	--

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

1.1 INTRODUCTION

RECIRCULATION REQUIREMENTS

Pursuant to the Guidelines for California Environmental Quality Act (CEQA Guidelines) Section 15088.5(a), a lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the EIR for public review under Section 15087 but before certification of the EIR. New "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. As identified in Section 15088.5(a) of the CEQA Guidelines, "Significant new information" requiring recirculation includes, for example, disclosure of any of the following:

1. A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
2. A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
3. A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project's proponents decline to adopt it.
4. The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

If revision of an EIR is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified. (CEQA Guidelines, § 15088.5(c).)

PUBLIC CIRCULATION OF DRAFT EIR

The City of Manteca prepared and publicly circulated a Draft Environmental Impact Report (EIR) for the proposed North Manteca Annexation #1 Project (proposed Project) on September 2, 2022, inviting comment from the general public, agencies, organizations, and other interested parties. A Notice of Availability (NOA) was filed with the State Clearinghouse (SCH # 2021100441) and the County Clerk, and was published in a local newspaper pursuant to the public noticing requirements of CEQA. The Draft EIR was available for public review and comment from September 2, 2022 through October 17, 2022. Five (5) comments were received on the Draft EIR.

1ST RECIRCULATION OF DRAFT EIR

After the initial public circulation of the Draft EIR, it was discovered that Chapter 3.7, Greenhouse Gases, Climate Change and Energy, had been inadvertently omitted from the publicly circulated version of the Draft EIR. As a result, the City circulated Chapter 3.7 for public review in a first recirculated Draft EIR on April 25, 2023. Public review occurred from April 25, 2023 to June 8, 2023. The first recirculated Draft EIR included Chapter 1.0: Introduction and Chapter 3.7 Greenhouse Gases, Climate Change and Energy. The City received three (3) comment letters regarding the first recirculated Draft EIR.

2ND RECIRCULATION OF DRAFT EIR

Comments received on the first recirculated Draft EIR included suggestions for additional and/or modified analyses of greenhouse gas emissions, requests for additional and/or modified mitigation, as well as some technical concerns with the approach to the analysis. The following is a bulleted list of some concerns that were identified by commentors, along with a summary of how those comments have been addressed in this second recirculated Draft EIR (note: each commentor's name and affiliation associated with the comment is identified in brackets):

- Concerns that Project greenhouse gas emissions were underestimated because the greenhouse gas emissions modeling utilized the CalEEMod model's default travel distance parameters for the region, rather than specific VMT information developed by the traffic consultant [Patrick Sutton, Baseline Environmental Consulting] [Steve A. Herum, Herum/Crabtree/Suntag Attorneys]. Based on this comment, the greenhouse gas emissions modeling has been revised to align the model data with the travel characteristics and VMT information developed by the traffic consultant.

- Concerns that per capita Project greenhouse gas estimates should consider a later target year, such as 2028 or 2030 [Patrick Sutton, Baseline Environmental Consulting] [Steve A. Herum, Herum/Crabtree/Suntag Attorneys]. Based on this comment, additional model runs were performed assuming buildout years of 2028 and 2030, in addition to the 2025 model year already provided.

- Concerns that the Project was not analyzed for consistency with the 2022 Scoping Plan and the State's long-term goal of carbon neutrality [Patrick Sutton, Baseline Environmental Consulting] [Steve A. Herum, Herum/Crabtree/Suntag Attorneys]. Based on this comment, an amplified analysis of the Project's consistency with the 2022 Scoping Plan and the State's long-term goal of carbon neutrality has been provided. Plan consistency analysis also has been expanded to reflect the Project's consistency with the SJCOG SCS. The second recirculated Draft EIR also acknowledges that the City is in the early process of preparing an update to its Climate Action Plan.

- Concerns that the greenhouse gas emissions analysis should evaluate prohibiting natural gas connections and replacing natural gas appliances (e.g., water heaters and stoves) with electric appliances to support California's transition away from fossil fuel-based energy sources [Patrick Sutton, Baseline Environmental Consulting]. Based on this comment, more detailed discussions with the Project applicants about the residential building products that are envisioned for the Project have resulted in a more refined strategy to minimize natural gas emissions associated with more building appliances. The strategy also includes installation of solar infrastructure, prewiring for electric vehicles, and other energy efficient systems to significantly reduce natural gas usage associated with the residential buildings. The reduction in natural gas usage from these building improvements correlates to a significant reduction in Project-generated greenhouse gases from natural gas usage.

- Concerns were presented that the greenhouse gas emissions associated with the Project would not be less than significant, and instead would be significant and unavoidable. [Steve A. Herum, Herum/Crabtree/Suntag Attorneys]. Based on this comment, the greenhouse gas analysis has been significantly expanded and amplified. The modifications include refinements to the modeling and mitigation aimed at minimizing greenhouse gas emission impacts. As a result of comments/concerns received and the expanded analysis, the significance determination has changed from 'less than significant' to 'significant and unavoidable'. Mitigation has been added to minimize greenhouse gas emissions, especially targeting emissions associated with energy use and area source emissions. It is noted, however, that the majority of emissions generated by the Project are from mobile source emissions, and the Project by itself is unable to reduce mobile source greenhouse gas emissions to a level of insignificance.

- Concerns that the greenhouse gas analysis does not adequately assess energy waste from the Project [Steve A. Herum, Herum/Crabtree/Suntag Attorneys]. The energy analysis has been revised to provide for a more refined energy analysis that reflects electricity and natural gas use, and to also reflect the specific measures that will be incorporated into the buildings to reduce energy waste and/or inefficiency.

Based on all comments received during public review, and further discussions with the Project applicants and the applicants' consultants, the City has decided to produce a second recirculation of the Draft EIR. While the main purpose of the second recirculation is to revise the greenhouse gas emissions analysis to address public comments on the first recirculated Draft EIR, there are several other chapters of the original Draft EIR that warrant revision to ensure that the text is internally consistent and aligns with the updated greenhouse gas analysis. The recirculated chapters in this second recirculated Draft EIR supersede all previously published chapters. This second recirculated Draft EIR includes the following chapters:

- Executive Summary
- Chapter 1.0: Introduction
- Chapter 2.0: Project Description
- Chapter 3.3: Air Quality
- Chapter 3.7 Greenhouse Gases, Climate Change and Energy
- Chapter 4.0: Other CEQA-Required Topics
- Chapter 5.0: Alternatives
- Chapter 7.0: References

- Appendices (i.e. Appendix B and new Appendix G).

1.2 COMMENTING ON THE RECIRCULATED DRAFT EIR

This Recirculated Draft EIR will be circulated for public comment for a period of 45 days. Pursuant to CEQA guidelines Section 15088.5(f), Section 15088.5(f) of the State CEQA Guidelines, recirculating an EIR can result in the lead agency receiving more than one set of comments from reviewers. The lead agency may identify the set of comments to which it will respond by: (1) requiring reviewers to submit new comments when an EIR is substantially revised and the entire document is recirculated; or (2) requesting that reviewers limit their comments to only the revised chapter or portions of the Recirculated EIR. In no case shall the lead agency fail to respond to pertinent comments on significant environmental issues. In this case, the City is requesting that reviewers limit their comments to only the new information provided in this second recirculated Draft EIR.

Written public comments may be submitted to the Community Development Department, Planning Division during the specified public review and comment period. Written comments should be delivered in person or by courier service, or be sent by mail or email to:

Attn: Lea Simvoulakis, Senior Planner
Manteca Community Development Department, Planning Division
1215 W. Center Street, Suite 201
Manteca, CA 95337
Phone: (209) 456-8516
Email: lsimvoulakis@ci.manteca.ca.us

2.1 PROJECT LOCATION

The Project site is directly north of the City of Manteca's limit line adjacent to the Union Ranch development. The Project site is immediately west of State Route 99 (SR 99) and east of the Union Ranch Specific Plan Area. The Project site is bounded on the north by farmland, on the east by SR 99, on the south by existing residences and agricultural fields, and on the west by Union Road and the Union Ranch Specific Plan. Figures 2.0-1 and 2.0-2 in show the Project's regional location and vicinity. The Project site is in the northwest ¼ of Section 20, Township 1 South, Range 7 East Mount Diablo Base and Meridian (MDBM). Figure 2.0-3 illustrates the Project location on the USGS Manteca, California, 7.5-minute series quadrangle map.

2.2 PROJECT SITE DEFINED

The Project site includes several distinct planning boundaries defined below. The following terms are used throughout this document to describe planning area boundaries within the Project site:

- Annexation Area – includes the whole of the Project site (approximately 202.81 acres), including the approximate 175.67-acre Development Area, the approximate 27.14-acre Non-Development Areas, and all public right-of-way along Union Road fronting the Development and Non-Development Areas.

- Development Area - includes the parcels being annexed that will be entitled for subdivision and development. This includes the Union Ranch North Project Area (Subdivision 1) (approximately 106.04 acres) and the Stagecoach at M&E Project Area (Subdivision 2) (approximately 69.63 acres). The two areas total (175.67 acres) and are further defined below

    - Union Ranch North Project Area is Subdivision 1 (approximately 106.04 acres) – includes the western portion of the Annexation and Development Area.

    - Stagecoach at M&E Project Area is Subdivision 2 (approximately 69.93 acres) – includes the eastern portion of the Annexation and Development Area.

- Non-Development Area - includes the parcels being annexed that will not be entitled for subdivision or development. This includes three separate areas, each described as an Annexation SubArea. The three areas total (27.14 acres) and are further defined below:

    - Annexation SubArea 1 - 9.82 acres

    - Annexation SubArea 2 - 6.04 acres

    - Annexation SubArea 3 - 11.28 acres

2.3 PROJECT SETTING

EXISTING SITE CONDITIONS

The Project site is 202.81 acres and includes 18 Assessor parcels (APNs): Development Area (106.04-acre Subdivision 1, Union Ranch North Project Area, and 69.93-acre, Subdivision 2, Stagecoach at M&E Project Area), Non-development Subarea 1 (9.82 acres), Non-development Subarea 2 (6.04 acres), and Non-development Subarea 3 (11.28 acres). Figure 2.0-4 illustrates the APNs.

SITE TOPOGRAPHY

The Project site is relatively flat with natural gentle slope from south to north. The Project site topography ranges in elevation from approximately 29 to 36' feet above sea level.

EXISTING SITE USES

The Development Area primarily contains farmland, with a few existing homes and outbuildings. The outbuildings include barns, sheds, livestock/farm animal pens, beehives, equipment yards, dirt/gravel roadways, irrigation ditches, and overhead power lines. The majority of the Development Area is in active agricultural use (orchards), with all existing homes and outbuildings clustered on each parcel.

The Non-Development areas contains farmland and existing ranchettes. Each SubArea is uniquely different and is described in detail below:

Annexation SubArea 1 includes mostly active agricultural use (orchards), with a cluster of existing structures along Union Road. The cluster of structures in this SubArea includes existing homes, barns, sheds, livestock/farm animal pens, equipment yards, dirt/gravel roadways, irrigation ditches, and overhead power lines. Union Road is located along the western side of this SubArea and is fully improved on the southbound portion of the roadway to a City standard with 2 southbound lanes, a landscaped median, and landscaped pedestrian sidewalks. The eastside of Union Road functions as an unimproved County roadway with one northbound lane and no pedestrian sidewalk, curb/gutter, or landscaping.

Annexation SubArea 2 is characterized as existing ranchettes, with homes, barns, sheds, livestock/farm animal pens, equipment yards, dirt/gravel roadways, irrigation ditches, and overhead power lines. The agricultural land within this SubArea is pasture and/or cropland. Union Road is located along the western side of this SubArea and is an unimproved 2-lane County roadway without any landscaping or pedestrian facilities in either the northbound or southbound direction.

Annexation SubArea 3 is characterized as existing ranchettes, with existing homes, barns, sheds, livestock/farm animal pens, equipment yards, dirt/gravel roadways, and overhead power lines. This is no active production agricultural operation in this area, but there are small livestock pens that would be expected to house sheep, goats, horses, cows, hogs, foul, or poultry. Union Road is located along the eastern side of this SubArea and is a rural 2-lane County roadway without any landscaping or pedestrian facilities in either the northbound or southbound direction. Shady Pines Street is located along the southern side of this SubArea and is a fully improved City roadway that serves as an access road into the existing Woodbridge residential development.

Figure 2.0-5 shows aerial imagery of the existing site uses within the Project site.

EXISTING SURROUNDING USES

The Project site is surrounded by a variety of agricultural and residential land uses. Uses immediately adjacent to the north of the Project site include agricultural uses. Uses immediately to the south and southwest of the Project site include residential uses such as the Union Ranch Subdivision and an agribusiness. Uses to the south and east of the Project site include agricultural and residential uses, including ranchettes and large estates lots (to the south and east) and a residential subdivision (to the east).

EXISTING GENERAL PLAN LAND USE DESIGNATIONS AND ZONING

The following section outlines the City and County General Plan land use designations and zoning for the Project site. It should be noted that the Project site is currently outside of the jurisdiction of the City of Manteca, and therefore does not have a City of Manteca zoning.

City of Manteca

The currently adopted General Plan is the 2023 General Plan; however, the City is currently undergoing an Update to the General Plan. Therefore, the following describes the existing land use designations for the Project site under the 2023 General Plan and the proposed General Plan Update. Figure 2.0-6a and Figure 2.0-6b depict the land use designations for the Project site and the surrounding areas under the adopted Manteca General Plan 2023 as well as the Manteca General Plan Update, respectively.

The Development Area is designated as Agriculture (AG), Very Low Density Residential (VLDR, 0.5-2 du/ac) with a Park (P) designation under the current 2023 General Plan. The proposed General Plan Update shows the Development Area portion of the Project site with a Low Density Residential, High Density Residential, and Park land use designation. It is noted that the proposed Project includes a General Plan Amendment that proposes land uses consistent with the proposed General Plan Update.

The proposed General Plan Update shows the Annexation SubArea 1 and 2 as Low Density Residential, and Annexation SubArea 3 as Low Density Residential, Medium Density Residential, and Commercial. It is noted that the proposed Project includes a General Plan Amendment that proposes land uses in the Annexation SubAreas consistent with the proposed General Plan Update; however, because no development is proposed in the Annexation SubAreas, an alternative also includes annexation of these areas without any land use changes. Under this Alternative, it would be anticipated that the City's General Plan Update would change the land uses to what is described above.

The 2023 General Plan and General Plan Update both contain standards to guide development for these land uses, as noted below:

2023 GENERAL PLAN

VLDR (Very Low Density Residential): The VLDR land use category will provide for residences on larger lots and small, quasi-agricultural activities, including raising and boarding livestock. Residential units shall be permitted to deviate from standard lot dimensions within agricultural areas in order to cluster dwellings together and thereby allow for continued agricultural use. The agricultural use areas that remain on the residential parcel shall be subject to an easement dedicated to the City that allow continued agricultural use but prohibits any further non-agricultural related development.

AG (Agriculture): This designation provides for agricultural uses (such as vineyards, orchards, row crops, farm animals), single family homes directly related to the agricultural use of the property, limited industrial uses directly related to agriculture, and similar and compatible uses.

GENERAL PLAN UPDATE

LDR (Low Density Residential): This designation provides for a mix of single-family housing, including small lots, clustered lots, attached homes, and conventional large lot detached residences. Density ranges from 2.1 to 8 dwelling units per acre.

HDR (High Density Residential): This designation provides for multi-family townhome, condominium, and apartment style housing and mobile home parks. The multi-family dwelling sites are typically located with direct access to arterial streets. The sites have access to the pedestrian and bikeway network along the street corridor and are located along the conceptual route of a public transportation shuttle route. Sites should be located near a neighborhood park, a neighborhood commercial center, or jobs centers and should provide pedestrian and bicycle connections to these amenities and services

San Joaquin County

Figure 2.0-7a identifies the San Joaquin County land use designations and zoning for the Project site and the surrounding area. The Project site is designated as Agriculture by the County's General Plan Land Use Map and is zoned as AG-40 Agriculture by the County. Figure 2.0-7b identifies the proposed rezone associated with the proposed Project.

2.4 PROJECT GOALS AND OBJECTIVES

Consistent with CEQA Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the proposed Project shall be discussed.

PROJECT OBJECTIVES

Section 15124(b) of the CEQA Guidelines requires that an EIR include a statement of the project objectives that "include the underlying purpose of the project and may discuss the project benefits." The following objectives have been identified for the Project:

- Provide residential housing opportunities that are visually attractive and sufficient to accommodate the future housing demand in Manteca.
- Provide a mixture of residential product types that collectively provide for local and regional housing.
- Provide infrastructure and park space that meets City standards, is integrated with existing and planned facilities and connections, and increases recreation opportunities for existing and future residents of the City.

- Establish a logical phasing plan designed to ensure that each phase of development would include necessary public improvements required to meet City standards.

- Annex the three Annexation SubAreas in order to avoid the creation of islands. Annexation of these areas would establish a logical and orderly city limit line that promotes the efficient extension of municipal services.

- Allow all existing property owners with existing and potentially legal non-conforming uses located in the Non-Development Areas (SubArea 1, 2, and 3) to continue to use and enjoy their properties in perpetuity in the same manner as prior to annexation.

2.5 PROJECT ENTITLEMENTS

GENERAL PLAN AMENDMENT

The proposed Project would require a General Plan Land Use Amendment to adjust the land uses to LDR and HDR for the Development Area.

Additionally, the proposed Project includes a General Plan Land Use Amendment to adjust the land uses in Annexation SubArea 1, 2, and 3 to be consistent with the proposed General Plan Update. Because the Annexation SubAreas are not proposed for development, establishment of the land uses under this proposed General Plan Amendment is not necessary, and as an alternative they may be left as currently designated. It is noted that the proposed General Plan Update is anticipated to change the land uses in the Annexation SubAreas, although the exact timing of that change is not defined.

PRE-ZONING

As previously stated, the Project site is currently outside of the jurisdiction of the City of Manteca, and therefore does not have zoning. The proposed Project includes a request for pre-zoning of the Development Area and Non-development Areas consistent with the General Plan Land Uses.

Development Area: The pre-zoning request is for R-1, R-3, and P zoning designations over these lots.

- **R-1 Single-Family Dwelling Zoning**. This designation allows for substantial flexibility in selecting dwelling unit types and parcel configurations to suit site conditions and housing needs. The types of dwelling units include small lots and clustered lots as well as conventional large-lot detached residences.

- **R-3 Multiple-Family Dwelling.** This designation provides for multi-family townhome, condominium, and apartment style housing and mobile home parks. The multi-family dwelling sites are typically located with direct access to arterial streets. The sites have access to the pedestrian and bikeway network along the street corridor and are located along the conceptual route of a public transportation shuttle route. Sites should be located near a neighborhood park, a neighborhood commercial center, or jobs centers and should provide pedestrian and bicycle connections to these amenities and services

Non-development SubArea 1: The pre-zoning request is for an R-1 zoning designation over the existing lots. The R-1 is defined as follows:

- **R-1 One-Family Dwelling Zoning**. This designation allows for substantial flexibility in selecting dwelling unit types and parcel configurations to suit site conditions and housing needs. The types of dwelling units include small lots and clustered lots as well as conventional large-lot detached residences.

Non-development SubArea 2: The pre-zoning request is for an R-1 zoning designation over the existing lots. The R-1 is defined as follows:

- **R-1 One-Family Dwelling Zoning**. This designation allows for substantial flexibility in selecting dwelling unit types and parcel configurations to suit site conditions and housing needs. The types of dwelling units include small lots and clustered lots as well as conventional large-lot detached residences.

Non-development SubArea 3: The pre-zoning request is for General Commercial (GC), R-1, and R-2, zoning over these lots. The GC, R-1, and R-2 are defined as follows:

- **General Commercial Zoning.** This category provides for wholesale, warehousing, and heavy commercial uses, highway-oriented commercial retail, public and quasi-public uses, and similar and compatible uses. The designation is also intended to accommodate visitor lodging, commercial recreation and public gathering facilities, such as amphitheaters, or public gardens. It also allows most neighborhood and mixed commercial uses.

- **R-1 One-Family Dwelling Zoning**. This designation allows for substantial flexibility in selecting dwelling unit types and parcel configurations to suit site conditions and housing needs. The types of dwelling units include small lots and clustered lots as well as conventional large-lot detached residences.

- **R-2 Limited Multiple-Family Dwelling Zoning**. This designation allows for medium density residential use includes single family homes, smaller scale multi-family developments, including garden apartments, townhouses, and cluster housing. The density range accommodates small-lot single family homes that will typically be smaller in size and more affordable to residents.

The proposed zoning for the Project site is shown on Figure 2.0-7b.

TENTATIVE SUBDIVISION MAPS

The proposed Project includes a Tentative Map for each of the subdivisions (i.e., Subdivision 1 and Subdivision 2) that would ultimately be developed in phases. The Tentative Map covers approximately 175.67 acres within nine Assessor parcels (APNs). This includes the Union Ranch North Project Area (APNs 197-020-21, 197-020-22, 197-020-23, 197-020-35, 197-020-41, 197-020-46, 197-020-47), and the Stagecoach at M&E Project Area (APNs 197-020-020 and 197-020-390).

The Tentative Maps would result in the subdivision of a total of approximately 175.67 acres into 715 single family residential units, (410 units in Subdivision 1 and 305 units in Subdivision 2), 200 multi-family residential units in Subdivision 1.

10.66 acres of neighborhood park, park/basin and open space and 3.45 acres of the continuation of the Tide Water Bike Trail. The Project objectives also include the installation of new public roadways that will provide pedestrian and vehicular access to the Project site and surrounding community areas, and other improvements, including water supply, storm drainage, sewer facilities and landscaping.

The Tentative Maps would result in 14.55 acres for the development of park, open space, and trail, including 10.66 acres of neighborhood park, park/basin and open space and 3.45 acres of the continuation of the Tide Water Bike Trail. The Tentative Maps calls for the installation of new public roadways that will provide pedestrian and vehicular access to the Project site and surrounding community areas, and other improvements, including water supply, storm drainage, sewer facilities and landscaping. Figure 2.0-8a and Figure-2.0-8b illustrate the proposed site plans for Subdivision 1 and Subdivision 2 (respectively).

ANNEXATION

The proposed Project includes an annexation of nineteen APNs totaling approximately 202.81 acres. This includes 175.67 acres for development, and 27.14 acres that is not proposed for development, but is being annexed to avoid the creation of islands. The 27.14 acres is located on nine APNs and will be designated as an existing and legal non-conforming use whereby all property owners are allowed to continue to use and enjoy their properties in perpetuity in the same manner as prior to annexation. Non-conforming uses include the existing agricultural uses (orchards, row crops, livestock/farm animal, fowl/poultry, apiary, etc.), existing residences, existing outbuildings, equipment storage, roadways, irrigation, etc. even if left fallow or not used for such temporarily.

DEVELOPMENT AGREEMENT

The proposed Project anticipates a Development Agreement that will be negotiated between the City and Applicant. Terms of the Development Agreement are not available at this early stage of review but will be required to be consistent with the environmental analysis, including any mitigation measures that are created to reduce impacts.

2.6 DEVELOPMENT PROJECT CHARACTERISTICS

The proposed Project is primarily a residential development anticipated to provide up to 915 residential units. The Development Project would provide 10.66 acres of neighborhood parks, plus 3.45 acres of the continuation of the Tide Water Bike Trail. Total parkland is 14.55 acres. Other uses to support and compliment the proposed residential development include underground wet and dry utility infrastructure, roadways, curb/gutters/sidewalks, bicycle/pedestrian facilities, street lighting, and street signage.

Development of housing will depend on market conditions and demand. The plan for infrastructure allows for development to occur in phases to respond to the market conditions and demand.

RESIDENTIAL DEVELOPMENT

The proposed Project will provide a variety of housing types and lot sizes that will accommodate a range of housing objectives and buyer needs with a goal to ensure housing for a variety of families and lifestyles. At full build-out, the Development Area will accommodate up to 915 residential units. Specifically, the proposed Project would include the development of 715 single family residential units, (410 units in Subdivision 1 and 305 units in Subdivision 2), and 200 multi-family residential units in Subdivision 1. The residential units would be split between the Union Ranch North portion of the Project (410 single family units and 200 multi-family units) and the Stagecoach at M&E portion of the Project (305 single family units). Development of housing will depend on market conditions and demand. Figure 2.0-8a and Figure 2.0-8b illustrate the two Project site plans.

PARKS

The proposed Project includes 10.66 acres of neighborhood park, park/basin and open space and 3.45 acres of the continuation of the Tide Water Bike Trail. The total area of park space is 14.55 acres. After dedication to the City, the parks, parkways, and recreation facilities will be under the jurisdiction of the City, and will be operated and maintained by the City for the enjoyment of the residents of Manteca. Maintenance will be funded through a community facilities district.

CIRCULATION

The proposed Project will expand the existing circulation system to serve the proposed Project and northern Manteca. This includes construction of a new East-West Connector Street connecting Union Road with State Route 99. This also includes the buildout of Union Road along the western side of the Project site. This section of Union Road is partially improved along the frontage of the Woodbridge Subdivision, and unimproved along the remaining portion of this roadway. Additionally, the proposed Project will provide sidewalks, bike lanes, and landscaping to offer additional bicycling and walking facilities for all of Manteca's residents. This includes the continuation of the Tide Water Bike Trail through the Project site. The Development Area and its circulation system is a natural progression of the existing developed land uses and the street network in northern Manteca.

The proposed Project includes a hierarchy of roadways to accommodate the capacity needs of the existing street network as well as provide additional vehicular access to the Development Area that will also benefit the vehicular circulation for the entire City. Union Road and South Frontage Road are the main arterial roadways providing access to the Development Area. The proposed Project includes annexation of right-of-way along Union Road, which will be improved to a City of Manteca standard.

The neighborhoods within the Development Area will include a network of minor collectors, and residential streets to provide an efficient flow of traffic through the area. Additionally, sidewalks and bicycle lanes will be included per the City standards.

UTILITIES AND PLANNED INFRASTRUCTURE IMPROVEMENTS

The construction of on-site infrastructure improvements would be required to accommodate development of the Development Area, as described below.

Water System

The Project site would be served by a new potable and non-potable water distribution system. The proposed water system will be a looped system of water lines with various points-of-connection to existing City mains to comply with City Master Plans and standards. A water system analysis will be prepared during future design of Improvement Plans to ensure that the final design is compliant with fire flow and pressure standards.

Potable Water

The Development Area would be served by a new potable water distribution system. Development of the proposed potable water system will require the installation of additional water mains within the proposed roadways to comply with the 2005 City of Manteca Master Water Plan. The proposed on-site water distribution system will have various points-of-connection to the City mains. The Development Project will connect to the existing water main lines along nearby roadways, such as Union Road. Additionally, an internally looped system of water lines will be installed within the Development Area. A water system analysis will be prepared during future design of Improvement Plans to ensure that the final design is compliant with City of Manteca fire flow and pressure standards.

The proposed water distribution system may utilize Best Management Practices (BMP) and design control features, including the following Low Impact Development (LID) measures:

1. Implementation of the City of Manteca water recycling program for irrigation of public areas.
2. Irrigation system designs may include “purple pipe” for distribution of recycled water.
3. Reduction of turf areas on lots.
4. Use of rain gardens on lots and in public areas.
5. Use of drought-resistant vegetation in landscaping on lots and public areas.
6. Use of native trees and vegetation for landscaping on lots and in public areas.
7. Lot designs may include features that receive roof runoff from downspouts and provide for reuse of rainwater for irrigation.

Non-Potable Water

The Development Area would include the development of an on-site non-potable water distribution system that would eventually provide irrigation water to planned parks, open space, and landscaped areas. All landscape irrigation is to be installed with non-potable components.

Connection from all irrigation systems to the non-potable water service will be provided in the proposed streets. This connection is to be provided per the requirements of the City Water Division with a valve. Irrigation shall be designed to maximize efficiency and meet the requirements of the City Parks Maintenance Division.

Wastewater System

The Project site would be served by a new wastewater collection system installed within the North Manteca Collection Shed (NMCS). The NMCS has been planned to serve areas of future growth in the north of Manteca. The proposed wastewater conveyance facilities would connect to the existing sewer mains as part of the City of Manteca collection and treatment system. Wastewater treatment would be provided at the City's existing Wastewater Quality Control Facility (WQCF) at 2450 West Yosemite Avenue in western Manteca.

Storm Drainage

The Project site would include construction of a new storm drainage system, including a drainage collection system, storm drain pump stations, and detention basins. The final basin location and design will conform to the Manteca Design Specifications and Standards and will be finalized during the Improvement Plan phase. The detention basins are intended to help attenuate peak flows before drainage discharge is pumped into storm drainage facilities. The proposed detention basins are joint-use facilities providing park/recreation uses when not being used for stormwater detention. The storm drainage collection and detention system will be subject to the State Water Resources Control Board Requirements (SWRCB) and City of Manteca regulations, including: Manteca Storm Drain Master Plan, 2013; Phase II, National Pollutant Discharge Elimination System (NPDES) Permit Requirements; NPDES-MS4 Permit Requirements; and LID Guidelines.

Regulated Public Utilities

Electrical, gas, phone, cable and related internet services would be extended to all portions of the Project site from existing facilities located along Union Road, SR 99, and from existing residential development surrounding the Project site. Proposed utilities would be located within public utility easements to be dedicated along street frontages. Utility improvements would be installed in conjunction with planned street improvements.

2.7 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed Project.

CITY OF MANTECA

The City of Manteca will be the Lead Agency for the proposed Project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050. Actions that would be required from the City include, but are not limited to the following:

- Certification of the EIR;
- Adoption of the Mitigation Monitoring and Reporting Program;
- Approval of City of Manteca General Plan Amendment (Land Use Element);
- Approval of City of Manteca Zoning Pre-zoning;
- Approval of Development Agreement;
- Approval of Tentative Maps;
- Approval of Annexation of the Development Area and Inhabited Area and Authorization to submit Annexation request to San Joaquin LAFCo;

- Approval of future Final Maps;
- Approval of future Improvement Plans;
- Approval of future Grading Plans;
- Approval of future Site Plan and Design Review;
- City review, approval, of construction and utility plans; and
- Approval of future Building Permits.

OTHER GOVERNMENTAL AGENCY APPROVALS

The following agencies may be required to issue permits or approve certain aspects of the proposed Project. Other governmental agencies that may require approval include, but are not limited to, the following:

- San Joaquin Local Agency Formation Commission (LAFCo) – Annexation and Detachment from Lathrop Manteca Fire District;
- Central Valley Regional Water Quality Control Board (CVRWQCB) - Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities pursuant to the Clean Water Act;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) - Approval of construction-related air quality permits;
- SJVAPCD - Authority to Construct, Permit to Operate for stationary sources of air pollution; and
- San Joaquin Council of Governments - SJCOG, Inc. (SJCOG) - Issuance of incidental take permit under the San Joaquin Multi-Species Habitat Conservation and Open Space Plan (SJMSCP);
- South San Joaquin Irrigation District - Irrigation Service Abandonment Agreements, Improvement Plan review and Board of Directors consideration.

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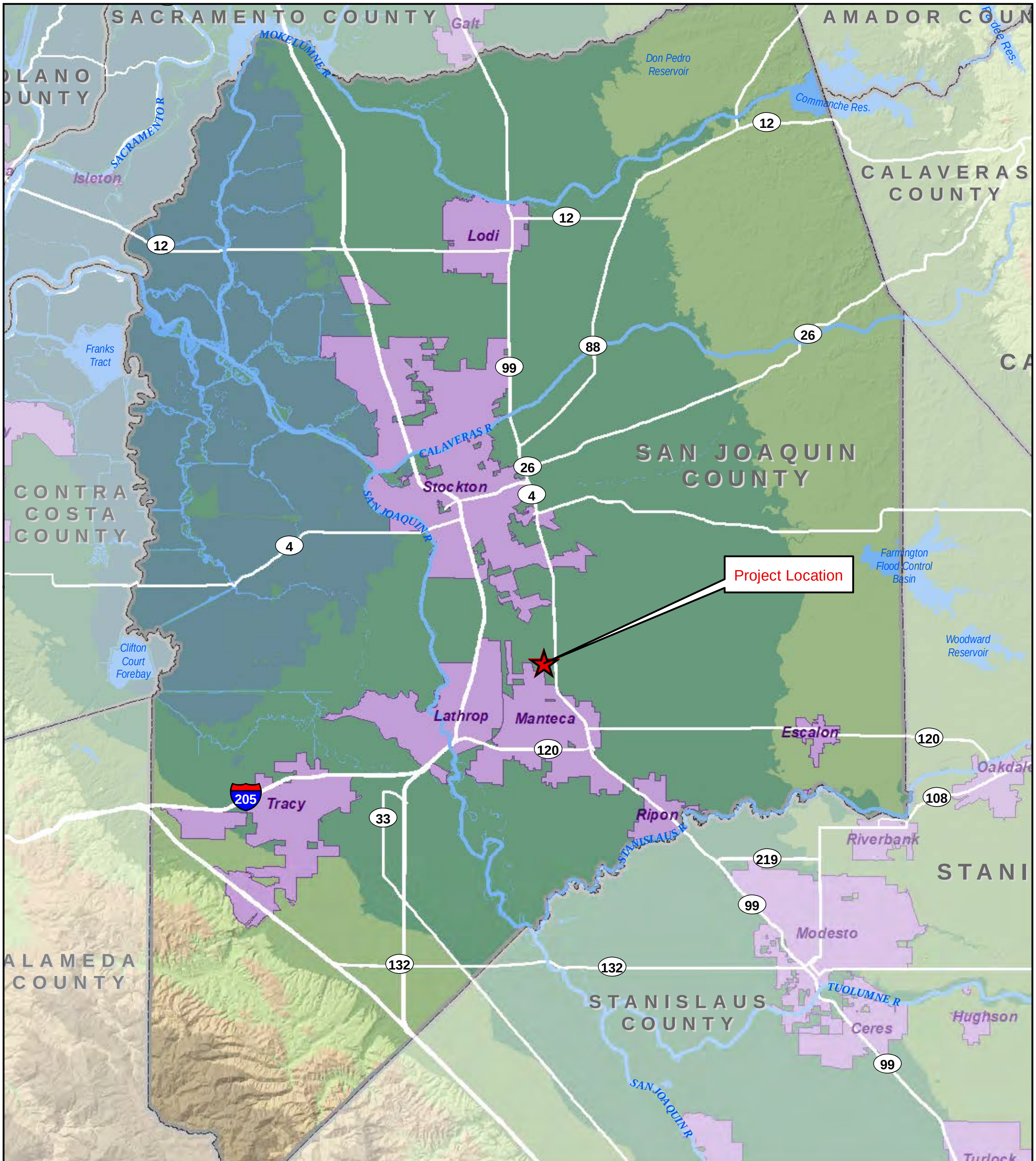

Legend

Project Location

Incorporated Area

County Boundary

Sources: California State Geoportal. Map date: August 23, 2021.

0 2½ 5

Miles

MANTECA ANNEXATION #1

Figure 2.0-1. Regional Location Map

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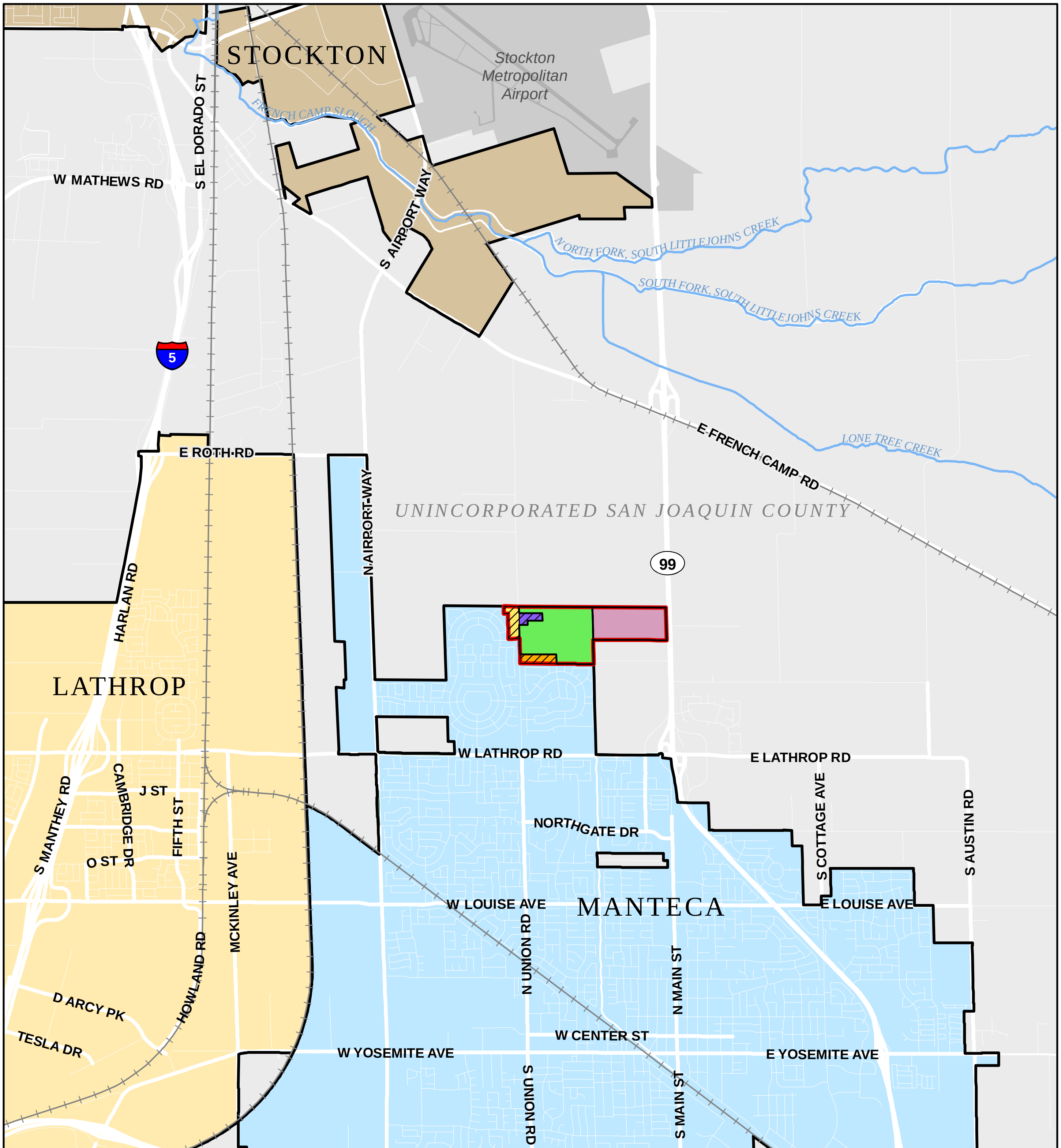

Legend

- Annexation Area #1 Overall Boundary
- Project Area
- Annexation SubArea
- City of Manteca
- City of Lathrop
- City of Stockton
- Annexation SubArea #1
- Annexation SubArea #2
- Annexation SubArea #3
- Stagecoach at M & E
- Union Ranch North
- Airport Runway
- Unpaved Airport Area

Sources: San Joaquin County GIS. Map date: September 8, 2021.

0 2,000 4,000
Feet

MANTECA ANNEXATION #1

Figure 2.0-2. Vicinity Map

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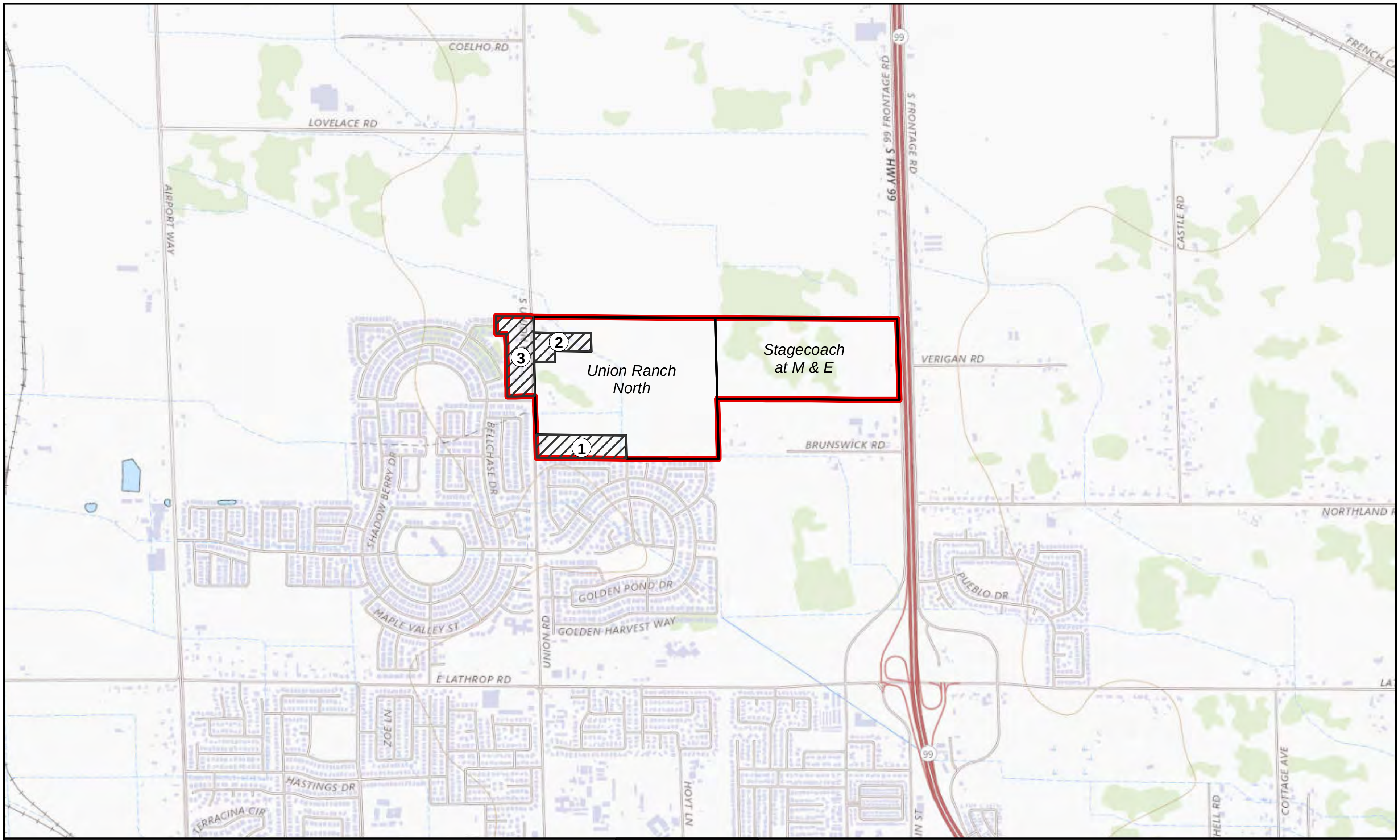

Legend

Annexation #1 Overall Boundary

Project Area

Annexation SubArea

0 600 1,200
Feet

Sources: San Joaquin County GIS; USGS National Map. Map date: September 8, 2021.

MANTECA ANNEXATION #1

Figure 2.0-3. USGS Topographic Map

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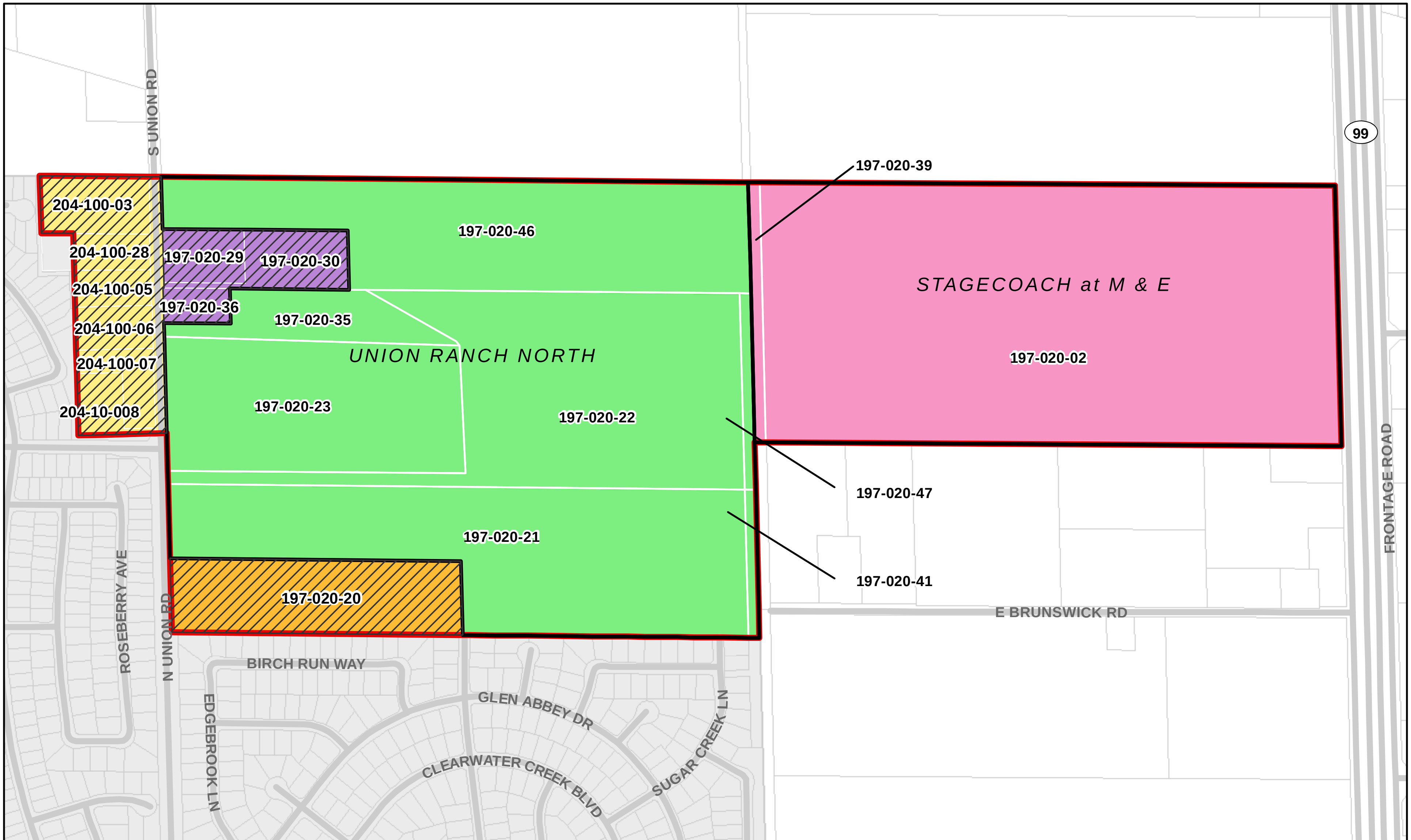

Legend

- Annexation #1 Overall Boundary
- Project Area
- Annexation SubArea
- City of Manteca
- Union Ranch North
- Stagecoach at M & E
- Annexation SubArea #1
- Annexation SubArea #2
- Annexation SubArea #3

Sources: San Joaquin County GIS; RLC Associates 8/17/2021.
Map date: September 8, 2021.

0 150 300
Feet

MANTECA ANNEXATION #1

Figure 2.0-4. Assessor Parcel Map

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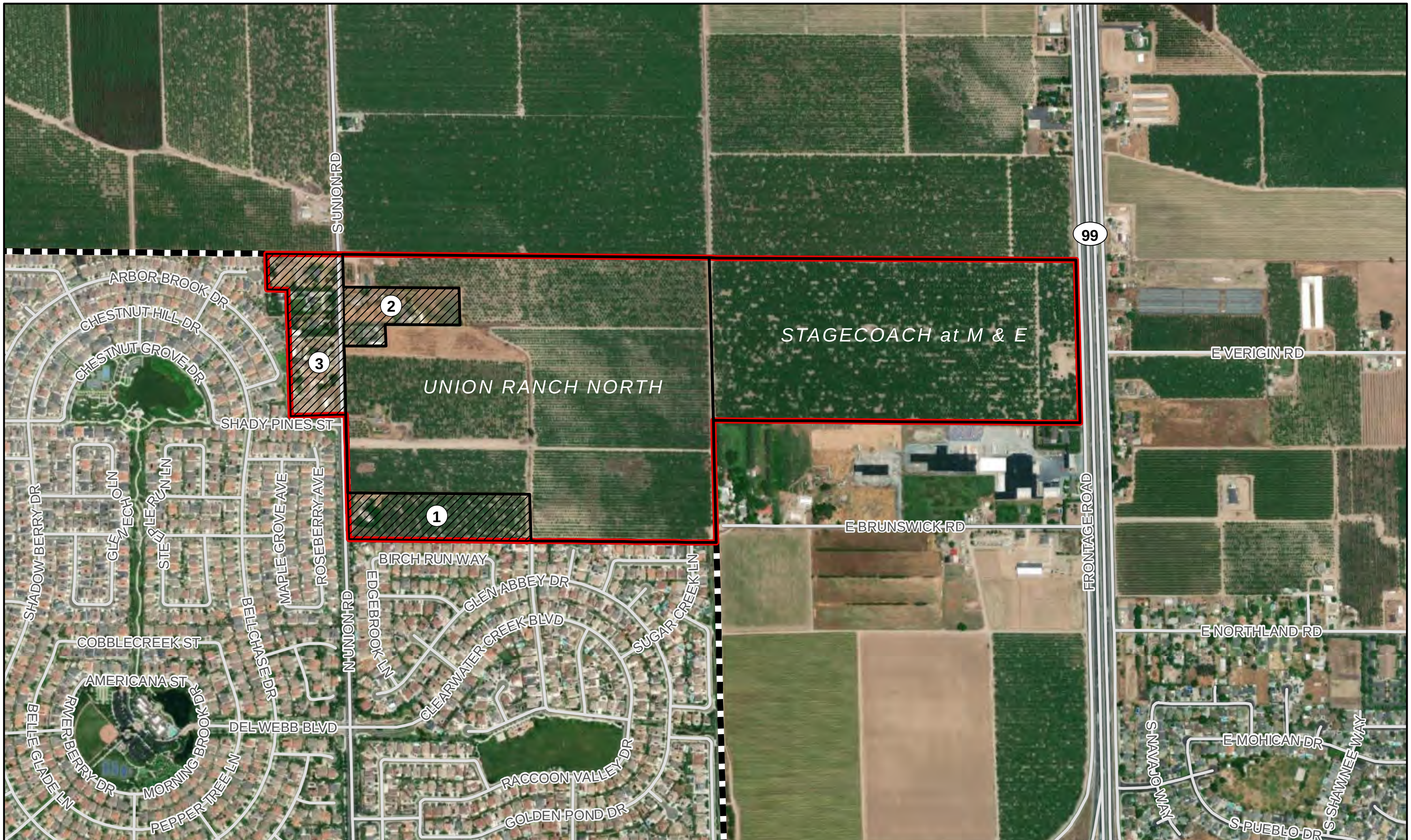

Legend

- Annexation #1 Overall Boundary
- Project Area
- # Annexation SubArea
- Manteca City Boundary

Sources: San Joaquin County GIS; ArcGIS Online World Imagery Map Service 5/4/2020. Map date: September 8, 2021.

0 250 500
Feet

MANTECA ANNEXATION #1

Figure 2.0-5. Aerial View of Project Site

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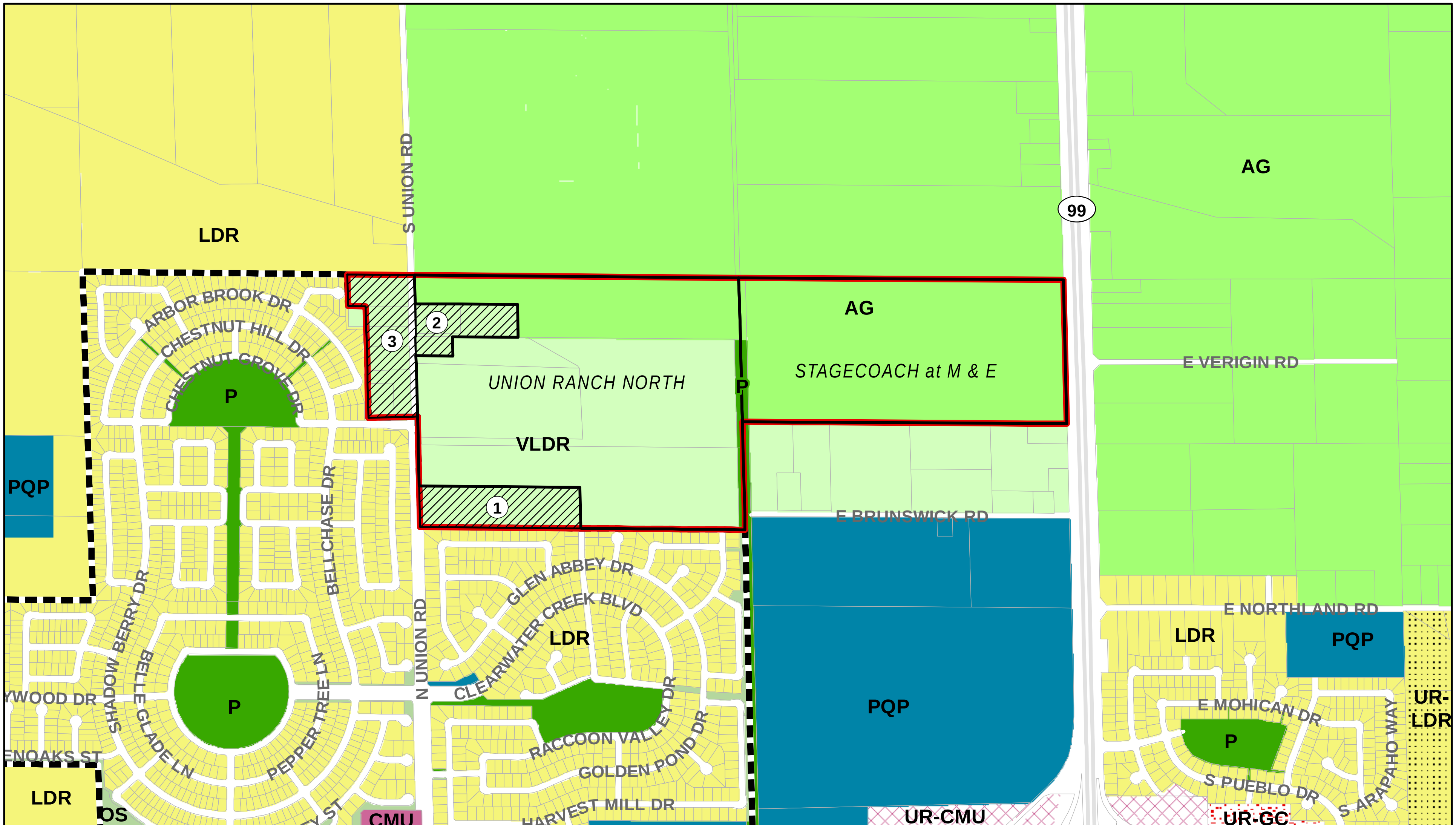
MANTECA ANNEXATION #1

Figure 2.0-6a. Existing General Plan Land Uses



Legend

- Annexation #1 Overall Boundary
- Project Area
- # Annexation SubArea
- Manteca City Boundary
- AG - Agriculture
- CMU - Commercial Mixed Use
- GC - General Commercial
- VLDR - Very Low Density Residential
- LDR - Low Density Residential
- OS - Open Space
- P - Park
- PQP - Public/Quasi-Public
- UR-CMU - Urban Reserve-Commercial Mixed Use
- UR-GC - Urban Reserve-General Commercial
- UR-LDR - Urban Reserve-Low Density Residential

0 250 500
Feet

Sources: San Joaquin County GIS; City of Manteca. Map date: October 14, 2021.

De Novo Planning Group
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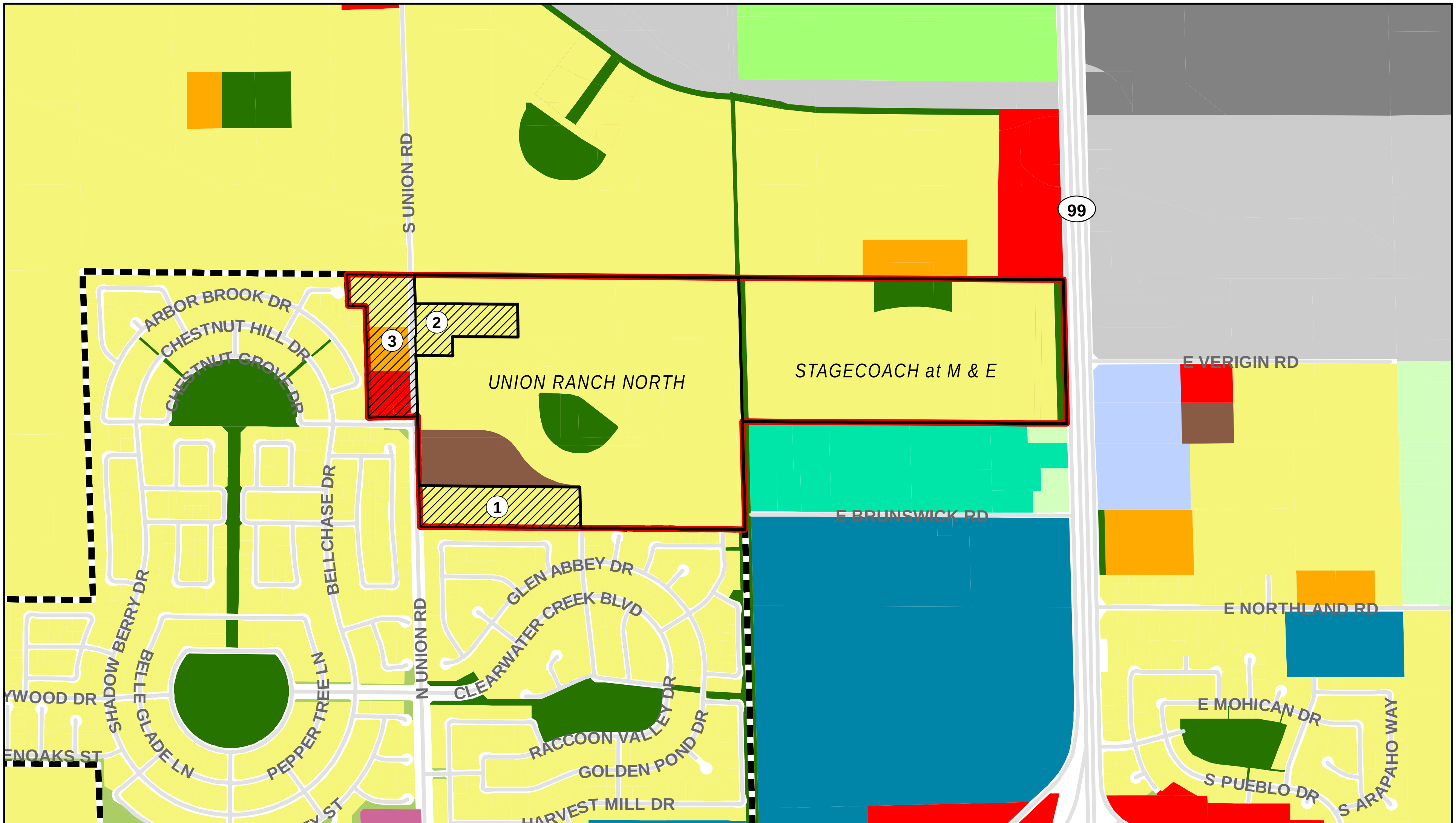

Legend

- Annexation #1 Overall Boundary
- Project Area
- # Annexation SubArea
- Manteca City Boundary

Land Use Designation

- AI - Agricultural Industrial
- AG - Agriculture
- C - Commercial
- CMU - Commercial Mixed Use
- VLDR - Very Low Density Residential
- LDR - Low Density Residential
- MDR - Medium Density Residential
- HDR - High Density Residential
- BIP - Business Industrial Park
- BP - Business Professional
- I - Industrial
- OS - Open Space
- P - Park
- PQP - Public/Quasi-Public

0 250 500
Feet

MANTECA ANNEXATION #1

Figure 2.0-6b. Proposed General Plan Land Uses

De Novo Planning Group
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Sources: San Joaquin County GIS; City of Manteca, General Plan Update Alt D. Map date: October 19, 2021.

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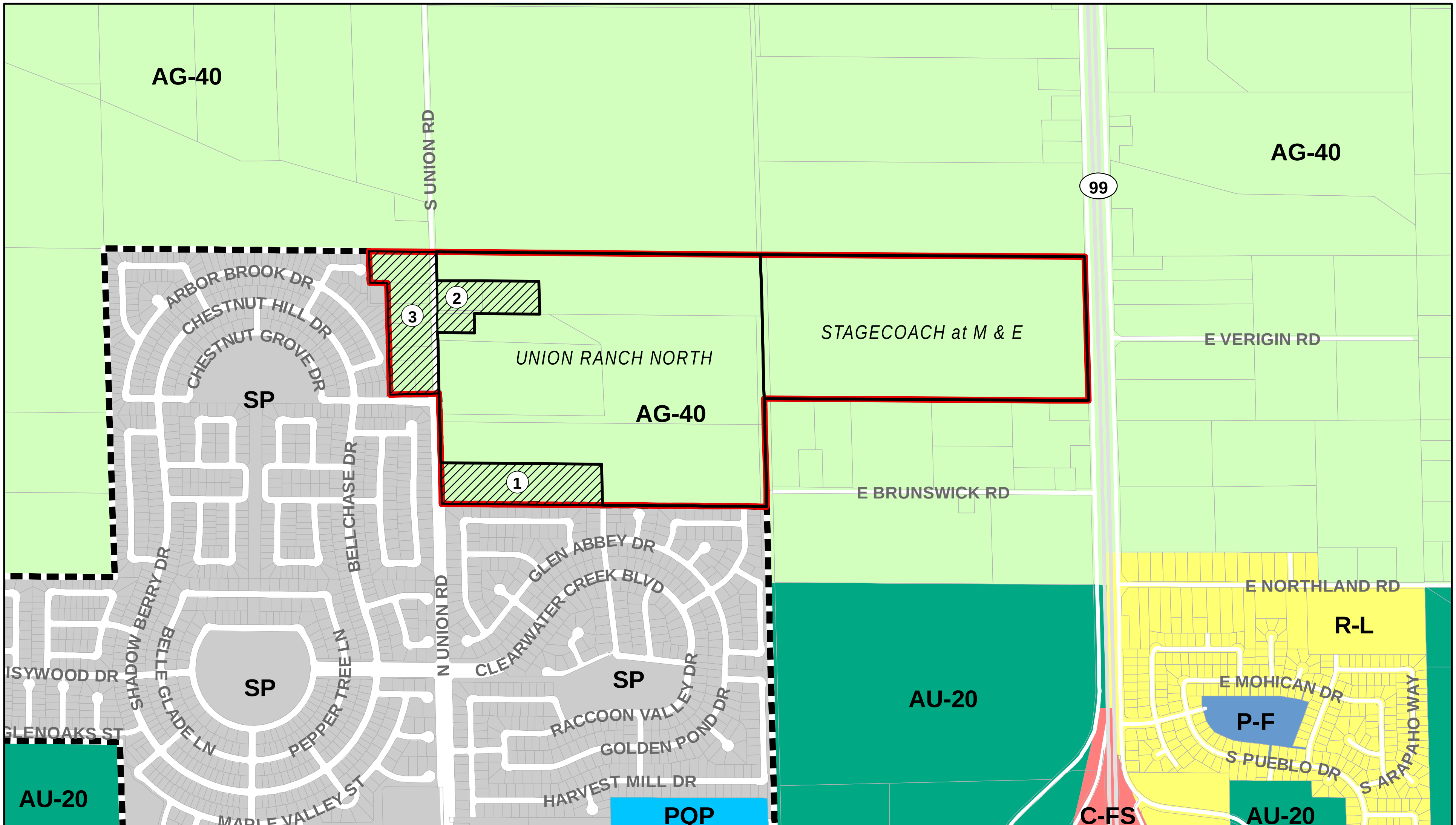

Legend

Annexation #1 Overall Boundary

Project Area

Annexation SubArea

Manteca City Boundary

City of Manteca Zoning

PQP- Public/Quasi-Public

SP - Union Ranch Specific Plan

San Joaquin County Zoning

AG-40- General Agriculture

AU-20- Agriculture Urban Reserve

C-FS- Freeway Service Commercial

P-F- Public Facilities

R-L- Low Density Residential

0 250 500
Feet

Sources: San Joaquin County GIS; City of Manteca. Map date: October 14, 2021.

MANTECA ANNEXATION #1

Figure 2.0-7a. Existing Zoning Designations

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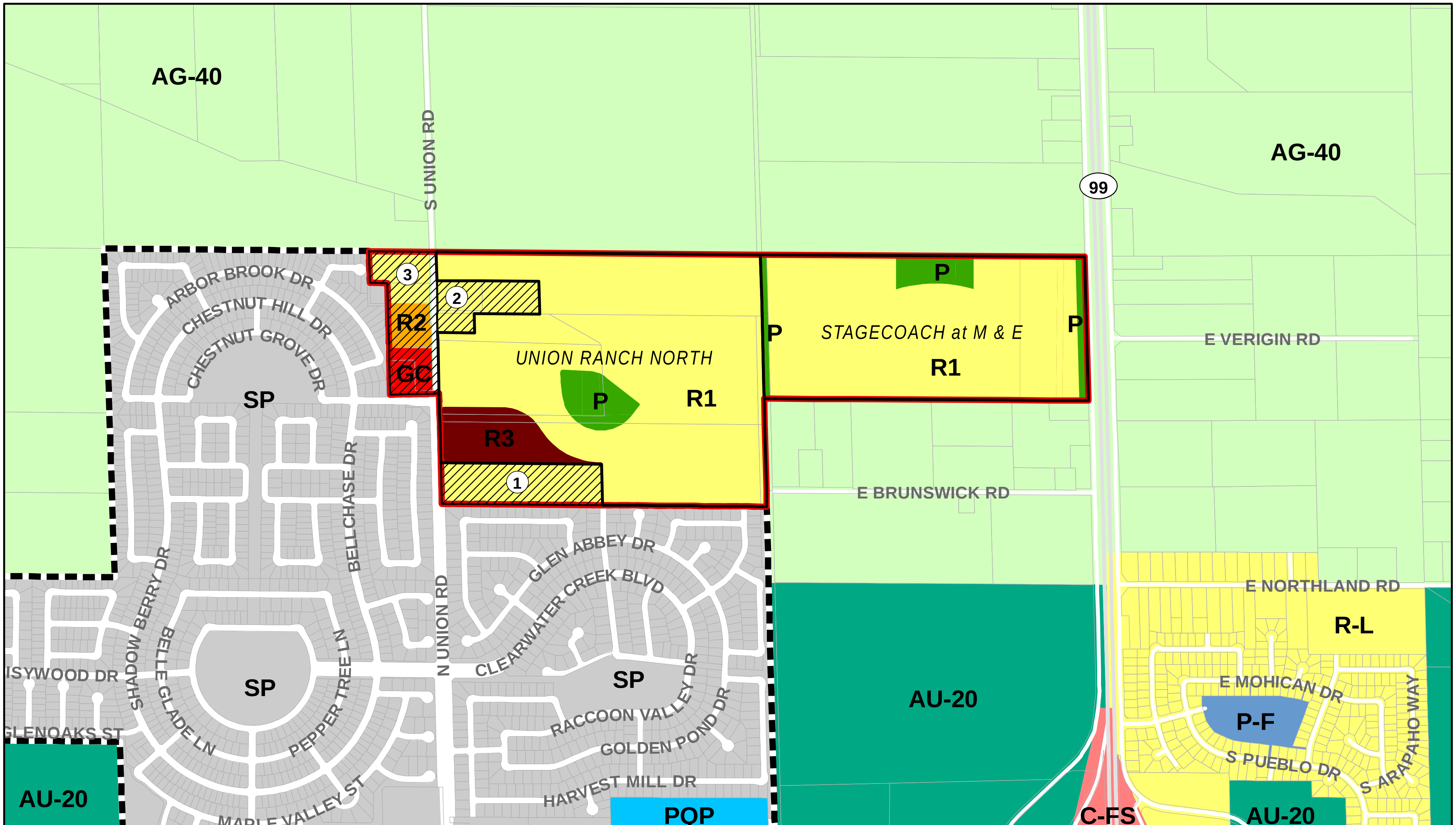

Legend

Annexation #1 Overall Boundary

Project Area

Annexation SubArea

Manteca City Boundary

City of Manteca Zoning

- PQP- Public/Quasi-Public
- SP - Union Ranch Specific Plan
- R1- One-Family Dwelling
- R2- Limited Multiple-Family Dwelling
- R3- Multiple-Family Dwelling
- GC - General Commercial
- P - Park

San Joaquin County Zoning

- AG-40- General Agriculture
- AU-20- Agriculture Urban Reserve
- C-FS- Freeway Service Commercial
- P-F- Public Facilities
- R-L- Low Density Residential

0 250 500
Feet

Sources: San Joaquin County GIS; City of Manteca.
Map date: October 14, 2021.

MANTECA ANNEXATION #1

Figure 2.0-7b.
Proposed Rezone

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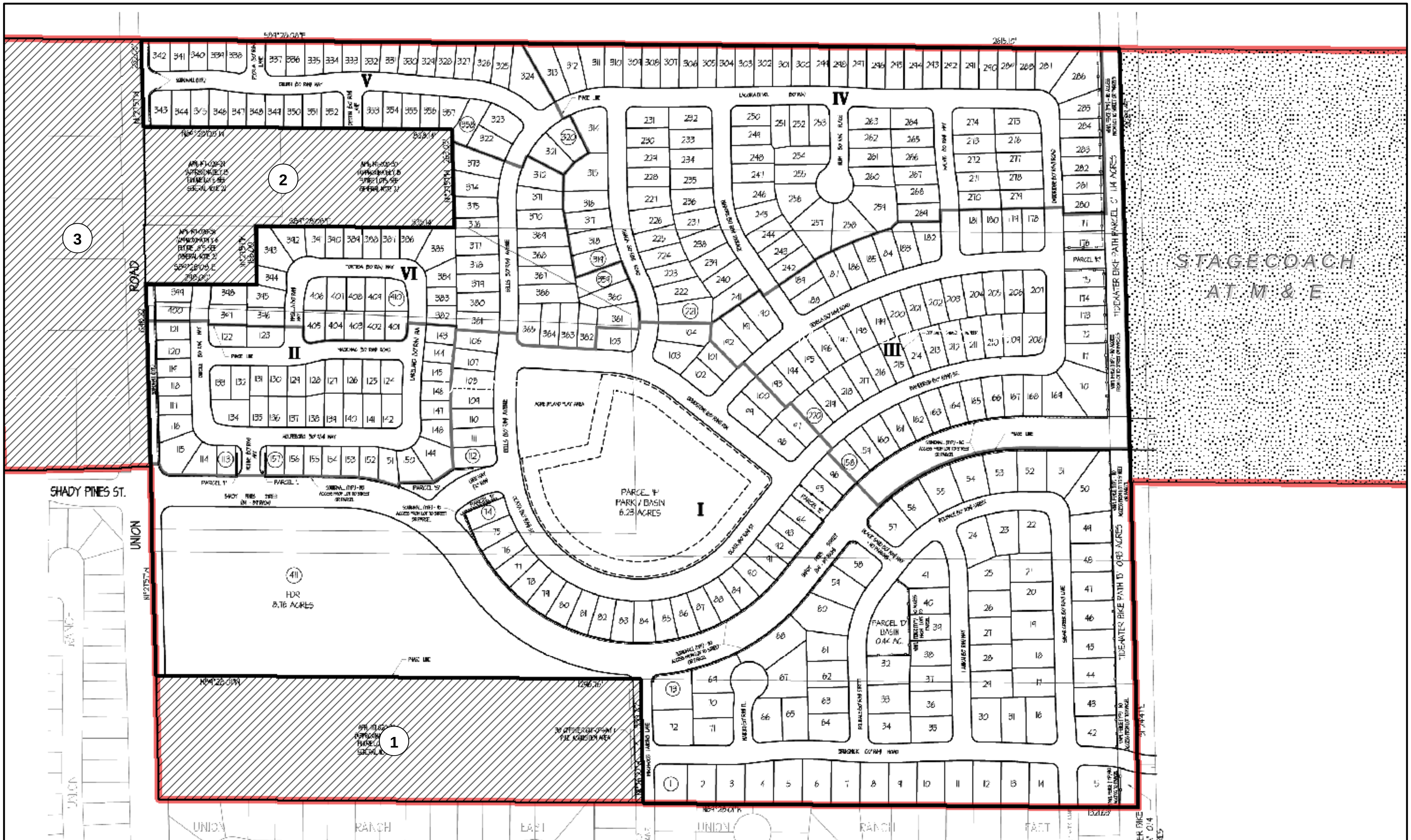

Legend

- Annexation Area #1 Overall Boundary
- Union Ranch North Project Area
- Stagecoach at M & E Project Area
- # Annexation SubArea

0 100 200
Feet

Sources: San Joaquin County GIS; RLC Associates 9/30/2021. Map date: October 8, 2021.

MANTECA ANNEXATION #1

Figure 2.08a. Proposed Site Plan - Union Ranch North

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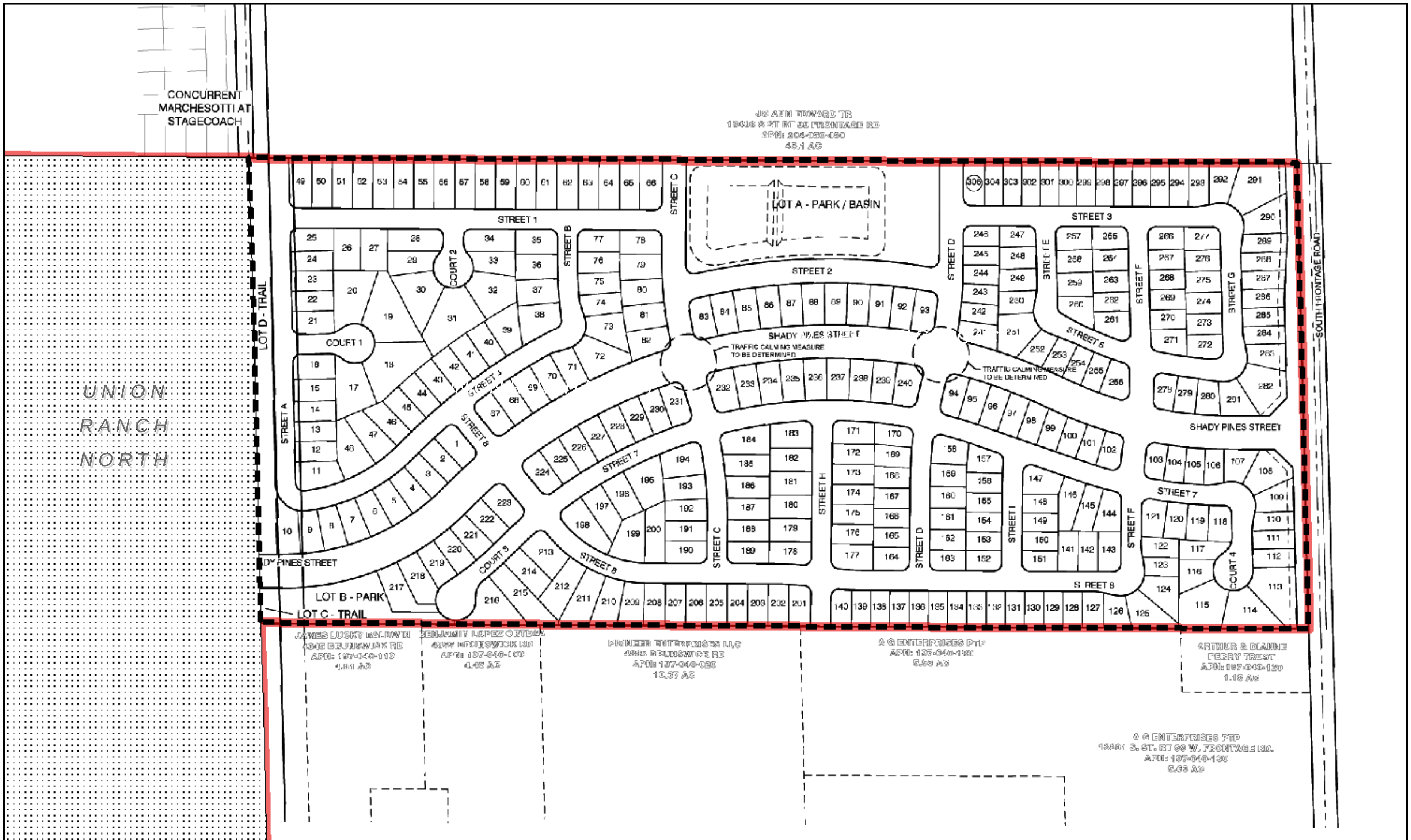

Legend

Annexation Area #1 Overall Boundary

Stagecoach at M & E Project Area

Union Ranch North Project Area

0 100 200

Feet

Sources: San Joaquin County GIS; MCR Engineering 10/5/2021. Map date: October 14, 2021.

MANTECA ANNEXATION #1

Figure 2.0-8b. Proposed Site Plan - Stagecoach at M & E

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This section describes the regional air quality, current attainment status of the air basin, local sensitive receptors, emission sources, and impacts that are likely to result from Project implementation. The analysis contained in this section is intended to be at a project-level, although impacts related to the emission of criteria air pollutants are inherently cumulative, and covers impacts associated with the conversion of the entire Development Area to urban uses. Following this discussion is an assessment of consistency of the proposed Project with applicable policies and local plans. The Greenhouse Gases and Climate Change analysis is located in a separate section of this document. This section is based in part on the following technical studies: *Air Quality and Land Use Handbook: A Community Health Perspective* (California Air Resources Board [CARB], 2007), *Guide for Assessing and Mitigation Air Quality Impacts* (San Joaquin Valley Air Pollution Control District [SJAVPCD], 2002), *Guidance for Assessing and Mitigating Air Quality Impacts - 2015* (SJAVPCD, 2015), and CalEEMod *(v.2022.1)* (CARB, 2021).

There were no comments received during the NOP scoping process related to this environmental topic.

3.3.1 ENVIRONMENTAL SETTING

SAN JOAQUIN VALLEY AIR BASIN

The City of Manteca (City) is in the southern portion of the San Joaquin Air Basin (SJVAB). The SJVAB consists of eight counties: Fresno, Kern (western and central), Kings, Tulare, Madera, Merced, San Joaquin, and Stanislaus. Air pollution from significant activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. These sources, coupled with geographical and meteorological conditions unique to the area, stimulate the formation of unhealthy air.

The SJVAB is approximately 250 miles long and an average of 35 miles wide. It is bordered by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi Mountains in the south. There is a slight downward elevation gradient from Bakersfield in the southeast end (elevation 408 feet) to sea level at the northwest end where the valley opens to the San Francisco Bay at the Carquinez Straits. At its northern end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The bowl-shaped topography inhibits movement of pollutants out of the valley (San Joaquin Valley Air Pollution Control District (SJVAPCD), 2015).

Climate

The SJVAB is in a Mediterranean climate zone and is influenced by a subtropical high-pressure cell most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the valley.

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface. Any emissions of pollutants can be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500 to 3,000 feet).

Winter-time high pressure events can often last many weeks, with surface temperatures often lowering into the 30°F. During these events, fog can be present and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet (SJVAPCD, 2015).

Wind Patterns

Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing and transporting it to other locations.

Especially in summer, winds in the San Joaquin Valley most frequently blow from the northwest. The region's topographic features restrict air movement and channel the air mass towards the southeastern end of the valley. Marine air can flow into the basin from the San Joaquin River Delta and over Altamont Pass and Pacheco Pass, where it can flow along the axis of the valley, over the Tehachapi Pass, into the Southeast Desert Air Basin. This wind pattern contributes to transporting pollutants from the Sacramento Valley and the Bay Area into the SJVAB. Approximately 27 percent of the total emissions in the northern portion, 11 percent of total emissions in the central region, and 7 percent of total emission in the south valley of the SJVAB are attributed to air pollution transported from these two areas.[1] The Coastal Range is a barrier to air movement to the west and the high Sierra Nevada Range is a significant barrier to the east (the highest peaks in the southern Sierra Nevada reach almost halfway through the Earth's atmosphere). Many days in the winter are marked by stagnation events where winds are very weak. Transport of pollutants during winter can be very limited. A secondary but significant summer wind pattern is from the southeast and can be associated with nighttime drainage winds, prefrontal conditions, and summer monsoons.

Two significant diurnal wind cycles that occur frequently in the valley are the sea breeze and mountain-valley upslope and drainage flows. The sea breeze can accentuate the northwest wind flow, especially on summer afternoons. Nighttime drainage flows can accentuate the southeast movement of air down the valley. In the mountains during periods of weak synoptic scale winds, winds tend to be upslope during the day and downslope at night. Nighttime and drainage flows are especially pronounced during the winter when flow from the easterly direction is enhanced by nighttime cooling in the Sierra Nevada. Eddies can form in the valley wind flow and can recirculate a polluted air mass for an extended period.

Temperature

Solar radiation and temperature are particularly important in the chemistry of ozone formation. The SJVAB averages over 260 sunny days per year. Photochemical air pollution (primarily ozone) is produced by the atmospheric reaction of organic substances (such as volatile organic compounds)

[1] SJVAPCD. Frequently Asked Questions, http://www.valleyair.org/general_info/frequently_asked_questions.htm#What%20is%20being%20done%20to%20improve%20ai r%20quality%20in%20the%20San%20Joaquin%20Valley, accessed March 3, 2020.

and nitrogen dioxide under the influence of sunlight. Ozone concentrations are very dependent on the amount of solar radiation, especially during late spring, summer, and early fall. Ozone levels typically peak in the afternoon. After the sun goes down, the chemical reaction between nitrous oxide and ozone begins to dominate. This reaction tends to scavenge and remove the ozone in the metropolitan areas through the early morning hours, resulting in the lowest ozone levels, possibly reaching zero at sunrise in areas with high nitrogen oxides emissions. At sunrise, nitrogen oxides tend to peak, partly due to low levels of ozone at this time and also due to the morning commuter vehicle emissions of nitrogen oxides.

Generally, the higher the temperature, the more ozone formed, since reaction rates increase with temperature. However, extremely hot temperatures can “lift” or “break” the inversion layer. Typically, if the inversion layer does not lift to allow the buildup of contaminants to be dispersed, the ozone levels will peak in the late afternoon. If the inversion layer breaks and the resultant afternoon winds occur, the ozone will peak in the early afternoon and decrease in the late afternoon as the contaminants are dispersed or transported out of the SJVAB.

Ozone levels are low during winter periods when there is much less sunlight to drive the photochemical reaction (SJVAPCD, 2015).

Precipitation, Humidity, and Fog

Precipitation and fog may reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog can block the required solar radiation. Wet fogs can cleanse the air during winter as moisture collects on particles and deposits them on the ground. Atmospheric moisture can also increase pollution levels. In fogs with less water content, the moisture acts to form secondary ammonium nitrate particulate matter. This ammonium nitrate is part of the valley’s $PM_{2.5}$ and PM_{10} problem. The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the SJVAB floor. This creates strong low-level temperature inversions and very stable air conditions, which can lead to tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of $PM_{2.5}$ and PM_{10} (SJVAPCD, 2015).

Inversions

The vertical dispersion of air pollutants in the San Joaquin Valley can be limited by persistent temperature inversions. Air temperature in the lowest layer of the atmosphere typically decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. The height of the base of the inversion is known as the “mixing height.” This is the level to which pollutants can mix vertically. Mixing of air is minimized above and below the inversion base. The inversion base represents an abrupt density change where little air movement occurs.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor (SJVAPCD, 2015).

CRITERIA POLLUTANTS

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (U.S. EPA) uses six "criteria pollutants" as indicators of air quality and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). In addition, California establishes ambient air quality standards, called California Ambient Air Quality Standards (CAAQS). California law does not require that the CAAQS be met by a specified date as is the case with NAAQS.

The ambient air quality standards for the six criteria pollutants (as shown in Table 3.3-1) are set to public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six primary criteria pollutants generated by the Project are discussed below.

Ozone (O_3) is a photochemical oxidant and the major component of smog. While O_3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O_3 at ground level are a major health and environmental concern. O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (ROG) and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O_3 levels occur typically during the warmer times of the year. Both ROGs and NO_x are emitted by transportation and industrial sources. ROGs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents. Relatedly, reactive organic compounds (ROG) are defined as the subset of ROGs that are reactive enough to contribute substantially to atmospheric photochemistry.

The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. EPA, 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. EPA, 2019b). The average background level of ozone in California and Nevada is approximately 48.3 parts per billion, which represents approximately 77 percent of the total ozone in the western region of the U.S. (NASA, 2015).

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. O_3 can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

Carbon monoxide (CO) is a colorless, odorless and poisonous gas produced by incomplete burning of carbon in fuels. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects to ambient CO (CARB, 2019a).

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (U.S. EPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels increases the risk of such incidences.

Nitrogen oxides (NO_x) is a brownish, highly reactive gas that is present in all urban atmospheres. The main effect of increased NO_2 is the increased likelihood of respiratory problems. Under ambient conditions, NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O_3) and acid rain and may affect both terrestrial and aquatic ecosystems. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2.

The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO_x). NO_x plays a major role, together with ROGs, in the atmospheric reactions that produce O_3. NO_x forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO_2) is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of SO_2 emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities. SO_2 is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

SO_2 affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children and the elderly. SO_2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills and from nonferrous smelters.

Short-term exposure to ambient SO_2 has been associated with various adverse health effects. Multiple human clinical studies, epidemiological studies, and toxicological studies support a causal relationship between short-term exposure to ambient SO_2 and respiratory morbidity. The observed health effects include decreased lung function, respiratory symptoms, and increased emergency department visits and hospitalizations for all respiratory causes. These studies further suggest that people with asthma are potentially susceptible or vulnerable to these health effects. In addition, SO_2 reacts with other air pollutants to form sulfate particles, which are constituents of fine particulate matter ($PM_{2.5}$). Inhalation exposure to $PM_{2.5}$ has been associated with various cardiovascular and respiratory health effects (U.S. EPA, 2017). Increased ambient SO_2 levels would lead to increased risk of such effects.

SO_2 emissions that lead to high concentrations of SO_2 in the air generally also lead to the formation of other sulfur oxides (SOx). SOx can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems.

Particulate matter (PM) includes dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO_2 and ROGs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: PM_{10} is particulate matter 10 micrometers or less in diameter (known as respirable particulate matter), and $PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter (known as fine particulate matter).

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death. Small particulate pollution causes health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed.

Respirable particulate matter (PM_{10}) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural activities (as created by soil preparation activities, fertilizer and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10} causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

$PM_{2.5}$ consists of fine particles, which are less than 2.5 microns in size. Similar to PM_{10}, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM_{10}, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the U.S. EPA created new Federal air quality standards for $PM_{2.5}$.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children. Particulate matter also impacts soils and damages materials and is a major cause of visibility impairment.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. EPA, 2019c).

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. Excessive Pb exposure can cause seizures, mental retardation and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

Lead exposure is typically associated with industrial sources; major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters. As a result of the U.S. EPA's regulatory efforts, including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014 (U.S. EPA, 2019d). Based on this reduction of lead in the air over this period, and since most new developments do not generate an increase in lead exposure, the health impacts of ambient lead levels are not typically monitored by the California Air Resources Board (CARB).

AMBIENT AIR QUALITY STANDARDS

Both the U.S. EPA and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and State ambient air quality standards are summarized in Table 3.3-1 for important pollutants. The federal and State ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and State standards differ in some cases. In general, the California standards are more stringent. This is particularly true for ozone, $PM_{2.5}$, and PM_{10}. The U.S. EPA signed a final rule for the federal ozone eight-hour standard of 0.070 ppm on October 1, 2015, and was effective as of December 28, 2015 (equivalent to the California state ambient air quality eight-hour standard for ozone).

TABLE 3.3-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour 8-Hour	-- 0.070 ppm	0.09 ppm 0.070 ppm
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.053 ppm 0.100 ppm	0.03 ppm 0.18 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm 0.075 ppm	-- 0.04 ppm 0.25 ppm
PM_{10}	Annual 24-Hour	-- 150 ug/m^3	20 ug/m^3 50 ug/m^3
$PM_{2.5}$	Annual 24-Hour	12 ug/m^3 35 ug/m^3	12 ug/m^3 --
Lead	30-Day Avg. 3-Month Avg.	-- 0.15 ug/m^3	1.5 ug/m^3 --

NOTES: PPM = PARTS PER MILLION, UG/M3 = MICROGRAMS PER CUBIC METER

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2019A.

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less ($PM_{2.5}$) were adopted for 24-hour and annual averaging periods. The existing PM_{10} standards were retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within San Joaquin County and the entire air basin are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A “nonattainment” designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An “unclassified” designation signifies that the data does not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, carbon monoxide, and nitrogen dioxide as “does not meet the primary standards,” “cannot be classified,” or “better than national standards.” For sulfur dioxide, areas are designated as “does not meet the primary standards,” “does not meet the secondary standards,” “cannot be classified,” or “better than national standards.” However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

San Joaquin County has a State designation Attainment or Unclassified for all criteria pollutants except for ozone, PM_{10} and $PM_{2.5}$. San Joaquin County has a national designation of either Unclassified or Attainment for all criteria pollutants except for Ozone and $PM_{2.5}$. Table 3.3-2 presents the state and nation attainment status for San Joaquin County.

TABLE 3.3-2: STATE AND NATIONAL ATTAINMENT STATUS IN SAN JOAQUIN COUNTY

CRITERIA POLLUTANTS	*STATE DESIGNATIONS*	*NATIONAL DESIGNATIONS*
Ozone (O_3)	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	Attainment	Unclassified/Attainment
Sulfates	Attainment	
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	
Visibility Reducing Particles	Unclassified	

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2023.

San Joaquin County Air Quality Monitoring

The SJVAPCD and the CARB maintain air quality monitoring sites throughout Fresno County that collect data for ozone, $PM_{2.5}$, and PM_{10}. The nearest active air quality monitoring site to the Project site is Clovis-N Villa Avenue. It is important to note that while the State retains the one-hour standard, the federal ozone 1-hour standard was revoked by the U.S. EPA and is no longer applicable for federal standards. Data obtained from the monitoring sites between 2015 and 2018 (latest year of data available) is shown in Table 3.3-3, Table 3.3-4, and Table 3.3-5.

TABLE 3.3-3 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (CLOVIS-N VILLA AVENUE) - OZONE

YEAR	*DAYS > STANDARD*				*1-HOUR OBSERVATIONS*			*8-HOUR AVERAGES*				*YEAR COVERAGE*	
	STATE		*NATIONAL*			*STATE*	*NAT'L*	*STATE*		*NATIONAL*			
	1-HR	*8-HR*	*1-HR*	*8-HR*	*MAX.*	*D.V.*[1]	*D.V.*[2]	*MAX.*	*D.V.*[1]	*MAX.*	*D.V.*[2]	*MIN*	*MAX*
2021	9	37	0	34	0.123	0.11	0.120	0.1	0.095	0.100	0.083	97	98
2020	12	41	2.1	36	0.142	0.11	0.114	0.108	0.095	0.108	0.084	98	99
2019	6	30	0	27	0.103	0.11	0.109	0.080	0.090	0.079	0.084	98	98

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. THE NATIONAL 1-HOUR OZONE STANDARD WAS REVOKED IN JUNE 2005 AND IS NO LONGER IN EFFECT. STATISTICS RELATED TO THE REVOKED STANDARD ARE SHOWN IN ITALICS. D.V. ¹ = STATE DESIGNATION VALUE. D.V. ²= NATIONAL DESIGN VALUE.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

TABLE 3.3-4: QUALITY MONITORING DATA SUMMARY (CLOVIS-N VILLA AVENUE) – PM_{10}

YEAR	*EST. DAYS > STD.*		*ANNUAL AVERAGE*		*HIGH 24-HR AVERAGE*		*YEAR COVERAGE*
	NAT'L	*STATE*	*NAT'L*	*STATE*	*NAT'L*	*STATE*	
2021	No Data	112.4	37.6	43.2	125.0	208.8	95
2020	5.8	117.5	45.8	50.8	180.9	296.0	100
2019	0	65.9	32.5	32.6	150.9	155.7	100

NOTES: THE NATIONAL ANNUAL AVERAGE PM_{10} STANDARD WAS REVOKED IN DECEMBER 2006 AND IS NO LONGER IN EFFECT. AN EXCEEDANCE IS NOT NECESSARILY A VIOLATION. STATISTICS MAY INCLUDE DATA THAT ARE RELATED TO AN EXCEPTIONAL EVENT. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. NATIONAL STATISTICS ARE BASED ON STANDARD CONDITIONS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. ND=THERE WAS INSUFFICIENT (OR NO) DATA AVAILABLE TO DETERMINE THE VALUE.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR ADAM) AIR POLLUTION SUMMARIES.

TABLE 3.3-5 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (CLOVIS-N VILLA AVENUE) - $PM_{2.5}$

YEAR	EST. DAYS > NAT'L '06 STD.	ANNUAL AVERAGE		NAT'L ANN. STD. D.V.[1]	STATE ANNUAL D.V.[2]	NAT'L '06 STD. 98TH PERCENTILE	NAT'L '06 24-HR STD. D.V.[1]	HIGH 24-HOUR AVERAGE		YEAR COVERAGE
		NAT'L	STATE					NAT'L	STATE	
2021	22.0	15.1	No Data	No Data	18	49.6	59	104.6	104.6	100
2020	40.0	18.4	18.4	No Data	18	99.5	62	188.0	257.5	99
2019	No Data	No Data	10.2	No Data	18	28.0	45	53.7	53.7	93

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. D.V. [1]= STATE DESIGNATION VALUE. D.V. [2]= NATIONAL DESIGN VALUE

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR ADAM) AIR POLLUTION SUMMARIES.

ODORS

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals, and schools. The closest sensitive receptors to the Planning Area include existing residences located within the Planning Area itself.

3.3.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The U.S. EPA is responsible for administering the FCAA. The FCAA requires the U.S. EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and $PM_{2.5}$ ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

NAAQS standards have been designed to accurately reflect the latest scientific knowledge and are reviewed every five years by a Clean Air Scientific Advisory Committee (CASAC), consisting of seven members appointed by the U.S. EPA Administrator. Reviewing NAAQS is a lengthy undertaking and includes the following major phases: Planning, Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), Policy Assessment (PA), and Rulemaking. The process starts with a comprehensive review of the relevant scientific literature. The literature is summarized and conclusions are presented in the ISA. Based on the ISA, U.S. EPA staff perform a risk and exposure assessment, which is summarized in the REA document. The third document, the PA, integrates the findings and conclusions of the ISA and REA into a policy context, and provides lines of reasoning that could be used to support retention or revision of the existing NAAQS, as well as several alternative standards that could be supported by the review findings. Each of these three documents are released for public comment and public peer review by the CASAC. Members of CASAC are appointed by the U.S. EPA Administrator for their expertise in one or more of the subject areas covered in the ISA. The CASAC's role is to peer review the NAAQS documents, ensure that they reflect the thinking of the scientific community, and advise the Administrator on the technical and scientific aspects of standard setting. Each document goes through two to three drafts before CASAC deems it to be final.

Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. NAAQS standards were last revised for each of the six criteria pollutant as listed below, with detail on what aspects of NAAQS changed during the most recent update:

- Ozone: On October 1, 2015, the U.S. EPA lowered the national eight-hour standard from 0.075 ppm to 0.070 ppm, providing for a more stringent standards consistent with the current California state standard.
- CO: In 2011, the primary standards were retained from the original 1971 level, without revision. The secondary standards were revoked in 1985.
- NO_2: The national NO_2 standard was most recently revised in 2010 following an exhaustive review of new literature pointed to evidence for adverse effects in asthmatics at lower NO_2 concentrations than the existing national standard.
- SO_2: On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99^{th} percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb.
- PM: the national annual average $PM_{2.5}$ standard was most recently revised in 2012 following an exhaustive review of new literature pointed to evidence for increased risk of premature mortality at lower $PM_{2.5}$ concentrations than the existing standard.
- Lead: The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. In 2016, the primary and secondary standards were retained.

The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc. are needed to have full comprehension of the local pollution control problems. As a result, the U.S. EPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. The CARB is the state agency that is responsible for preparing the California SIP.

Transportation Conformity

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the U.S. EPA adopted implementing regulations in 1997. See §176 of the FCAA (42 U.S.C. §7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration (FHWA), conform to the SIP as approved or promulgated by U.S. EPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas. Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the proposed Project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be considered in conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

Transportation Control Measures

One particular aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

STATE

Advanced Clean Cars II

The Advanced Clean Cars II regulations reduce light-duty passenger car, pickup truck and SUV emissions starting with the 2026 model year through 2035. The regulations are two-pronged. First, it amends the Zero-emission Vehicle Regulation to require an increasing number of zero-emission vehicles, and relies on currently available advanced vehicle technologies, including battery-electric, hydrogen fuel cell electric and plug-in hybrid electric-vehicles, to meet air quality and climate change emissions standards. These amendments support Governor Newsom’s 2020 Executive Order N-79-20 that requires all new passenger vehicles sold in California to be zero emissions by 2035. Second, the Low-emission Vehicle Regulations were amended to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions.

Advanced Clean Trucks

On June 25, 2020, the California Air Resources Board (CARB) adopted the Advanced Clean Trucks (ACT) rule, which requires the sale of zero-emission or near zero-emission HDTs starting with the manufacturer-designated model year 2024. Sales requirements are defined separately for three vehicle groups: Class 2b-3 trucks and vans, Class 4-8 rigid trucks, and Class 7-8 tractor trucks. The regulation is structured as a credit and deficit accounting system. In 2023, the EPA granted the state the waiver it needs to enact the ACT rule. The enacted rule requires truck makers to sell an increasing percentage of electric models annually through 2035. Forty percent of big rigs, half of all cargo and travel vans and 75 percent of box truck and dump truck sales need to be zero emissions by 2035.

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the State. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Towards this end, the CARB has adopted regulations which require auto manufacturers to phase in less polluting vehicles.

California Clean Air Act

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The CARB is the agency responsible for administering the CCAA. The CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards.

California Air Quality Standards

Although NAAQS are determined by the U.S. EPA, states have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.3-1.

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The recommendation can be for no change, or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and also for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. The ARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

In June of 2002, the CARB adopted revisions to the PM_{10} standard and established a new $PM_{2.5}$ annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006 and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

Tanner Air Toxics Act (TACs)

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted U.S. EPA's list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technologies (BACT) to minimize emissions.

AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, CARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule.

Omnibus Low-NOx Rule

The CARB approved the Omnibus Low-NOx Rule on August 28, 2020, which will require engine NOx emissions to be cut to approximately 75% below current standards beginning in 2024, and 90% below current standards in 2027. The rule also places nine additional regulatory requirements on new heavy-duty truck and engines. Those additional requirements include a 50% reduction in particulate matter emissions, stringent new low-load and idle standards, a new in-use testing protocol, extended deterioration requirements, a new California-only credit program, and extended mandatory warranty requirements. The regulatory requirements in the Omnibus Low-NOX Rule will first become effective in 2024, at the same time as the Advanced Clean Trucks regulations that CARB approved that mandates manufacturers convert increasing percentages of their heavy-duty trucks sold in California to zero-emission vehicles.

Assembly Bill 170

Assembly Bill 170, Reyes (AB 170), was adopted by state lawmakers in 2003, creating Government Code Section 65302.1, which requires cities and counties in the San Joaquin Valley to amend their general plans to include data and analysis, comprehensive goals, policies, and feasible implementation strategies designed to improve air quality. The elements to be amended include, but are not limited to, those elements dealing with land use, circulation, housing, conservation, and open space. Section 65302.1.c identifies four areas of air quality discussion required in these amendments:

- A report describing local air quality conditions, attainment status, and state and federal air quality and transportation plans;
- A summary of local, district, state, and federal policies, programs, and regulations to improve air quality;
- A comprehensive set of goals, policies, and objectives to improve air quality; and
- Feasible implementation measures designed to achieve these goals.

LOCAL

City of Manteca General Plan

The City of Manteca General Plan includes several policies that are relevant to air quality. It is noted that the currently adopted General Plan is the 2023 General Plan; however, the City is currently undergoing an Update to the General Plan. Both the 2023 General Plan policies and the proposed General Plan Update policies applicable to the Project are identified below:

2023 GENERAL PLAN (EXISTING)

Policies: Air Quality- Regional Coordination

- AQ-P-1: Cooperate with other agencies to develop a consistent and coordinated approach to reduction of air pollution and management of hazardous air pollutants.

Implementation: Air Quality- Regional Coordination

- AQ-I-1. Work with the San Joaquin Valley Air Pollution Control District (APCD) to implement the Air Quality Management Plan (AQMP).
    - Cooperate with the APCD to develop consistent and accurate procedures for evaluating project-specific and cumulative air quality impacts.
    - Cooperate with the APCD and the California Air Resources Board in their efforts to develop a local airshed model.
    - Cooperate with the APCD in their efforts to develop a cost/benefit analysis of possible control strategies (mitigation measures to minimize short and long-term stationary and area source emissions as part of the development review process, and monitoring

measures to ensure that mitigation measures are implemented.

- AQ-I-2. In accordance with CEQA, submit development proposals to the APCD for review and comment prior to decision.
- AQ-I-3. Cooperate with the San Joaquin County Environmental Health Department in identifying hazardous material users and in developing a hazardous materials management plan.

Policies: Air Quality- Land Use

- AQ-P-2: Develop a land use plan that will help to reduce the need for trips and will facilitate the common use of public transportation, walking, bicycles, and alternative fuel vehicles.
- AQ-P-3: Segregate and provide buffers between land uses that typically generate hazardous or obnoxious fumes and residential or other sensitive land uses.

Implementation: Air Quality- Land Use

- AQ-I-4. Encourage mixed-use development that is conveniently accessible by pedestrians and public transit.
- AQ-I-5. Locate employment, school, and daily shopping destinations near residential areas.
- AQ-I-6. Locate higher intensity development such as multi-family housing, institutional uses, services, employment centers and retail along existing and proposed transit corridors.
- AQ-I-7. Locate public facilities in areas easily served by current and planned public transportation.
- AQ-I-8. Prior to entitlement of a project that may be an air pollution point source, such as a manufacturing and extracting facility, the developer shall provide documentation that the use is located and appropriately separated from residential areas and sensitive receptors (e.g., homes, schools, and hospitals).

Policies: Air Quality- Transportation

- AQ-P-4: Develop and maintain street systems that provide for efficient traffic flow and thereby minimize air pollution from automobile emissions.
- AQ-P-5: Develop and maintain circulation systems that provide alternatives to the automobile for transportation, including bicycles routes, pedestrian paths, bus transit, and carpooling.
- AQ-P-6: Coordinate public transportation networks, including trains, local bus service, regional bus service and rideshare facilities to provide efficient public transit service.

Implementation: Air Quality- Transportation

- AQ-I-9. Maintain acceptable traffic levels of service (LOS) as specified in the Circulation Element.
- AQ-I-10. In new subdivisions, require the internal street system to include the installation of dedicated pedestrian/bicycle pathways connecting to adjacent residential and commercial areas as well as schools, parks and recreational areas.
- AQ-I-11. Provide adequate pedestrian and bikeway facilities for present and future transportation needs throughout the City.

Policies: Air Quality- Dust and Other Airborne Particulate Materials

- AQ-P-7: New construction will be managed to minimize fugitive dust and construction vehicle emissions.
- AQ-P-8: Woodburning devices shall meet current standards for controlling particulate air pollution.
- AQ-P-9: Burning of any combustible material within the City will be controlled to minimize particulate air pollution.

Implementation: Air Quality- Dust and Other Airborne Particulate Materials

- AQ-I-12. Construction activity plans shall include and/or provide for a dust management plan to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard.
    - Project development applicants shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction.
- AQ-I-13. All residences built in a new subdivision or housing development shall be equipped with conventional heating devices with sufficient capacity to heat all areas of the building without reliance on woodburning heating devices.
- AQ-I-14. All woodburning-heating devices installed shall meet EPA standards applicable at the time of project approval.

Policies: Air Quality- Reduce Emissions From Energy Generating Facilities

- AQ-P-10: Encourage energy efficient building designs.

Implementation: Air Quality- Reduce Emissions From Energy Generating Facilities

- AQ-I-15. Design review criteria shall include the following considerations, at a minimum:
    - The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from highways, arterial streets, hazardous material locations and other sources of air pollution or odor.
    - Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible.
    - The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.)
    - The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable.
    - Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds.

Policies: Air Quality – Greenhouse Gas Emissions

- AQ-P-11: Prepare and maintain a Climate Action Plan and community greenhouse gas emission inventory for sectors with the potential for control or influence by the City that demonstrates consistency with State of California targets.

- AQ-P-12: Development projects shall incorporate the applicable strategies of the City of Manteca Climate Action Plan as needed to demonstrate consistency with CAP reduction targets and AB 32.

Implementation: Air Quality – Greenhouse Gases

- AQ-I-16. Track and monitor aspects of development related to CAP strategies on an ongoing basis to measure progress in achieving CAP reduction targets.
- AQ-I-17. Track implementation of municipal and community projects and programs related to energy efficiency, transit service improvements, transportation facilities such as bicycle paths and lanes, pedestrian infrastructure, and other projects that reduce greenhouse gas emissions throughout the community.
- AQ-I-18. Update CAP emission inventories, targets, and strategies to reflect new State of California greenhouse gas reduction targets when adopted for later years and to reflect the benefits of any new State and federal regulatory actions that reduce greenhouse gas emissions to demonstrate continued consistency with State targets.

GENERAL PLAN UPDATE (PROPOSED)

Policies: Land Use Element

- LU-3.9: Locate residences away from areas of excessive noise, smoke, dust, odor, and lighting, and ensure that adequate provisions, including buffers or transitional uses, such as less intensive renewable energy production, light industrial, office, or commercial uses, separate the proposed residential uses from more intensive uses, including industrial, agricultural, or agricultural industrial uses and designated truck routes, to ensure the health and well-being of existing and future residents.

- LU-6.8: Encourage the mixing of retail, service, residential, office, and institutional uses on the properties surrounding The Promenade to create a significant retail, employment, and cultural center south of Highway 120.

- LU-6.9: Require mixed-use development to provide strong connections with the surrounding development and neighborhoods through the provision of pedestrian and bicycle facilities and, where feasible, site consolidation.

- LU-6.10: Encourage the reuse of existing buildings within Downtown and in other developed locations designated for mixed-use development by utilizing the California Existing Building Code which provides flexibility in the retrofitting of buildings.

- LU-6.11: Promote the revitalization of underutilized, deteriorated areas and buildings within Downtown and in other developed locations designated for mixed-use development through development incentives, public/private partnerships, and public investments.

- LU-8.4: Policy Area 3 is the Austin Road Business Park and Residential Community Master Plan area, with boundaries as shown in Figure LU-6. The primary land uses within Policy Area 3 are envisioned to be a master planned residential community with high-quality parks, community-serving commercial uses, and residential development ranging from very low to high density residential in order to accommodate a broad range of housing types, including executive housing and workforce housing. Residential uses located near SR 99 and adjacent the railroad tracks should include appropriate transitions and buffers to address air quality and noise.

- LU-9.1: Require future planning decisions, development, and infrastructure and public projects to consider the effects of planning decisions on the overall health and well-being of the community and its residents, with specific consideration provided regarding addressing impacts to disadvantaged populations and communities and ensuring disadvantaged communities have equitable access to services and amenities.

- LU-9.2: As part of land use decisions, ensure that environmental justice issues related to potential adverse health impacts associated with land use decisions, including methods to reduce exposure to hazardous materials, industrial activity, vehicle exhaust, other sources of pollution, and excessive noise on residents regardless of age, culture, gender, race, socioeconomic status, or geographic location, are considered and addressed.

Implementation: Land Use Element

- LU-1b: Regularly review and revise, as necessary, the Zoning Code to accomplish the following purposes:
  - Ensure consistency with the General Plan in terms of zoning districts and development standards;
  - Provide for a Downtown zone that permits the vibrant mixing of residential, commercial, office, business-professional, and institutional uses within the Central Business District;
  - Ensure adequate buffers and transitions are required between intensive uses, such as industrial and agricultural industrial, and sensitive receptors, including residential uses and schools; and
  - Provide for an Agricultural Industrial zone that accommodates the processing of crops and livestock.
  - Ensure that land use requirements meet actual demand and needs over time as technology, social expectations, and business practices change.

- LU-6a: Consider implementing incentives to support developers who construct vertical mixed-use projects and/or who build housing above non-residential ground-floor uses within Downtown.

- LU-6d: Promote the intensified use and reuse of existing suites above ground floors.

- LU-9a: Review all development proposals, planning projects, and infrastructure projects to ensure that potential adverse impacts to disadvantaged communities, such as exposure to pollutants, including toxic air contaminants, and unacceptable levels of noise and vibration are reduced to the extent feasible and that measures to improve quality of life, such as connections to bicycle and pedestrian paths, community services, schools, and recreation facilities, access to healthy foods, and improvement of air quality are included in the project. The review shall address both the construction and operation phases of the project.

- LU-9c: Encourage and support local transit service providers to increase and expand services for people who are transit-dependent, including seniors, persons with mobility disabilities, and persons without regular access to automobiles by improving connections to regional medical facilities, senior centers, and other support systems that serve residents and businesses.

Policies: Circulation Element

- C-2.7: Provide access for bicycles and pedestrians at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.

- C-2.8: Signals, roundabouts, traffic circles and other traffic management techniques shall be applied appropriately at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel conveniently and safely from one neighborhood to another.

- C-2.15: Ensure that development and infrastructure projects are designed in a way that provides pedestrian and bicycle connectivity to adjacent neighborhoods and areas (such as ensuring that sound walls, berms, and similar physical barriers are considered and gaps or other measures are provided to ensure connectivity).

- C-4.1: Through regular updates to the City's Active Transportation Plan, establish a safe and convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, generally as shown in Figure CI-2). The City shall also strive to develop connections with existing and planned regional routes shown in the San Joaquin County Bicycle Master Plan.

- C-4.2: Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing shade trees and controlling traffic speeds by implementing narrow lanes or other traffic calming measures in accordance with the City Neighborhood Traffic Calming Program on appropriate streets, in particular residential and downtown areas.

- C-4.3: Provide a sidewalk and bicycle route system that serves all pedestrian and bicycle users and meets the latest guidelines related to the Americans with Disabilities Act (ADA).

- C-4.4: Provide bicycle parking facilities at commercial, business/professional and light industrial uses in accordance with Part 11 of the California Building Standards Code.

- C-4.5: Expand the existing network of off-street bicycle facilities as shown in the City's Active Transportation Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop: 1) a "city-loop" Class I bike path for use by both bicyclists and pedestrians that links Austin Road, Atherton Drive, Airport Way, and a route along or near Lathrop Road to the Tidewater bike path and its existing and planned extensions, and 2) an off-street bicycle trail extension between the Tidewater Bike Trail near the intersection of Moffat Boulevard and Industrial Park Drive to the proposed regional route between Manteca and Ripon.

- C.4-6: Provide on-street Class II bike lanes, Class IV protected bike lanes, or off-street Class I bike paths along major collector and arterial streets whenever feasible.

- C.4.7: Facilitate bicycle travel through residential streets through signage necessary to communicate the presence of Class III bicycle lanes on residential streets that have sufficiently low volumes as to not require bike lanes or have narrower street cross sections that assist in calming traffic.

- C.4.8: Provide sidewalks and/or walkways connecting to the residential neighborhoods, primary public destinations, major public parking areas, transit stops, and intersections with the bikeway system.
- C.4.9: Provide sidewalks along both sides of all new streets in the City.
- C-5.1: Encourage and plan for the expansion of regional bus service in the Manteca area.
- C-5.2: Promote increased commuter and regional passenger rail service that will benefit the businesses and residents of Manteca. Examples include Amtrak, the Altamont Commuter Express (ACE), and high-speed rail.
- C-5.3: Identify and implement means of enhancing the opportunities for residents to commute from residential neighborhoods to the ACE station or other transit facilities that may develop in the City.
- C-5.4: Include primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas in the Active Transportation Plan (see C-4a).
- C-5.5: Encourage programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents.
- C-5.6: Promote the development of park-and-ride facilities near I-5, SR 120, SR 99, and transit stations.
- C-5.7: Maintain a working relationship between the City administration and the local management of the Union Pacific Railroad regarding expansion of freight and passenger rail service and economic development of the region.
- C-5.8: Design future roadways to accommodate transit facilities, as appropriate. These design elements should include installation of transit stops adjacent to intersections and provision of bus turnouts and sheltered stops, where feasible.
- C-5.9: Encourage land uses and site developments that promote public transit along fixed route public transportation corridors, with priority given to those projects that will bring the greatest increase in transit ridership.
- C-5.10: Ensure that development projects provide adequate facilities to accommodate school buses, including loading and turn-out locations in multifamily and other projects that include medium and high density residential uses, and that the school districts are provided an opportunity to address specific needs associated with school busing.
- C-5.11: As new areas and neighborhoods of the City are developed, fund transit expansion (including capital, operations, and maintenance) to provide service levels consistent with existing development.

- C-7.1: Encourage employers to provide alternative mode subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting, and work-at-home programs employee education and preferential parking for carpools/vanpools.

- C-7.2: Require development projects that accommodate or employee 50 or more full-time equivalent employees to establish a transportation demand management (TDM) program.

- C-7.3: Partner with SJCOG on the Dibs program, which is the regional smart travel program, including rideshare, transit, walking, and biking, operated by SJCOG.

- C-7.4: Require proposed development projects that could have a potentially significant VMT impact to consider reasonable and feasible project modifications and other measures during the project design and environmental review stage of project development that would reduce VMT effects in a manner consistent with state guidance on VMT reduction.

- C-7.5: Evaluate the feasibility of a local or regional VMT impact fee program, bank, or exchange. Such an offset program, if determined feasible, would be administered by the City or a City-approved agency, and would offer demonstrated VMT reduction strategies through transportation demand management programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, or other land use project conditions that reduce VMT in a manner consistent with state guidance on VMT reduction. If, through on-site changes, a subject project cannot eliminate VMT impacts, the project could contribute on a pro-rata basis to a local or regional VMT reduction bank or exchange, as necessary, to reduce net VMT impacts.

- C-7.6: Expand alternatives to driving by increasing opportunities to walk, bike, and use transit.

Implementation: Circulation Element

- C-1c: Develop a pedestrian, bicycle, and transit improvement plan for the Downtown area to facilitate implementation of level of service policy C-1.4. This plan will develop a list of multi-modal improvements in the Downtown area to increase the viability and encourage the use of non-auto modes.

- C-2b: When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path instead of bike lanes along a major arterial. Pedestrian districts like Downtown Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

- C-2f: Ensure that bicycle and pedestrian access is provided through walls and berms to minimize travel distances and increase the viability walking and bicycling.

- C-2i: Pursue funding to improve and address areas of traffic, bicycle, and pedestrian hazards and conflicts with vehicular traffic movements.

- C-4a: Periodically update the Active Transportation Plan to include all areas envisioned for development by this General Plan and to address pedestrian and bicycle facilities needed to provide a complete circulation system that adequately meets the needs of pedestrians and bicyclists.

- C.4b: Utilize the standards set forth in the latest editions of the California MUTCD and American Association of State Highway and Transportation Officials (AASHTO) Green Book for improvement and re-striping of appropriate major collector and arterial streets to accommodate Class II bike lanes or Class IV protected bikeways in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

- C.4d: Add bicycle facilities whenever possible in conjunction with road rehabilitation, reconstruction, or re-striping projects.

- C-4e: Update the City's standard plans to accommodate pedestrians and bicyclists, including landscape-separated sidewalks where appropriate, and to include bike lanes on collector and arterial streets, as defined by the Active Transportation Plan.

- C-4f: Encourage and facilitate resident and visitor use of the bike trail system by preparing a map of the pedestrian and bike paths and implementing wayfinding signage.

- C-4g: Update the standard plans to specify a set of roadways with narrower lanes (less than 12 feet) and pedestrian bulb-outs to calm traffic and increase pedestrian and bicycle comfort. These narrow lane standards shall be applied to appropriate streets (e.g., they shall not be applied to outside lanes on major truck routes) and new development.

- C-5a: Periodically review transit needs in the city and adjust bus routes to accommodate changing land use and transit demand patterns. The City shall also periodically coordinate with the San Joaquin Regional Transit District to assess the demand for regional transit services.

- C-5b: Explore a transit connections study that would identify improvements to connections and access to the existing ACE station, the Manteca Transit Center, and future planned transit stations.

- C-5c: Update the City's standard plans to include the option for bus turnouts at intersections of major streets.

- C-5d: Review and consider alternatives to conventional bus systems, such as smaller shuttle buses (i.e. micro-transit), on-demand transit services, or transportation networking company services that connect neighborhood centers to local activity centers with greater cost efficiency.

- C-5e: Work with the school districts to identify and implement opportunities for joint-use public transit that would provide both student transportation and local transit service.

- C-5f: Through the development review process, ensure that projects provide increased land use densities and mixed uses, consistent with the Land Use Element to enhance the feasibility of transit and promote alternative transportation modes.

- C-5g: Along fixed route corridors, require that new development to be compatible with and further the achievement of the Circulation Element. Requirements for compatibility may include but are not limited to:

- o Orienting pedestrian access to transit centers and existing and planned transit routes.
- o Orienting buildings, walkways, and other features to provide pedestrian access from the street and locating parking to the side or behind the development, rather than separating the development from the street and pedestrian with parking.
- o Providing clearly delineated routes through parking lots to safely accommodate pedestrian and bicycle circulation.

- C-5h: Review and update the City's funding programs to provide for adequate transit services, including funding for capital, operations, and maintenance, commensurate with growth of the City.
- C-7a: Provide information about transit services, ridesharing, vanpools, and other transportation alternatives to single occupancy vehicles at City Hall, the library, and on the City website.
- C-7b: Develop TDM program requirements with consideration of addressing CEQA vehicle miles traveled impact analysis requirements (i.e., SB 743) in accordance with implementation measure C-1c. TDM programs shall include measures to reduce total vehicle miles traveled and peak hour vehicle trips. A simplified version of the Air District's Rule 9510 could be used to implement this measure.
- C-7c: Coordinate with the San Joaquin Council of Governments on a Congestion/Mobility Management Program to identify TDM strategies to reduce VMT and mitigate peak-hour congestion impacts. Strategies may include: growth management and activity center strategies, telecommuting, increasing transit service frequency and speed, transit information systems, subsidized and discount transit programs, alternative work hours, carpooling, vanpooling, guaranteed ride home program, parking management, addition of general purpose lanes, channelization, computerized signal systems, intersection or midblock widenings, and Intelligent Transportation Systems.
- C-7d: Proposed development projects shall consider the list of potential measures below. This list is not intended to be exhaustive, and not all measures may be feasible, reasonable, or applicable to all projects. The purpose of this list is to identify options for future development proposals, not to constrain projects to this list, or to require that a project examine or include all measures from this list. Potential measures, with possible ranges of VMT reduction for a project, include:*

  - o *Increase density of development (up to 10.75 percent)*
  - o *Increase diversity of land uses (up to 12 percent)*
  - o *Encourage telecommuting and alternative work schedules (up to 4.5 percent)*
  - o *Implement car-sharing programs (up to 5 percent)*
  - o *Implement parking management and pricing (up to 6 percent)*
  - o *Implement subsidized or discounted transit program (up to 0.7 percent)*
  - o *Implement commute trip reduction marketing and launch targeted behavioral interventions (up to 3 percent)*

**Note: VMT reduction ranges based on Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association (2010) and new research compiled by Fehr & Peers (2020). Additional engineering analysis is required prior to applying reductions to specific projects. Actual reductions will vary by project and project context.*

- C-7e: Partner with SJCOG, San Joaquin County, and neighboring cities to evaluate a potential regional VMT impact fee program, bank, or exchange.
- C-7f: Implement the Active Transportation Plan and other Bikeway and Pedestrian Systems goals and polices (C-4).
- C-7g: Expand transit service and increase transit frequency and implement Public Transit goals and policies (C-5).

Policies: Community Facilities and Services Element

- CF-11.2: Implement and enforce the provisions of the City's Source Reduction and Recycling Program and update the program as necessary to meet or exceed the State waste diversion requirements.
- CF-11.3: Reduce municipal waste generation by increasing recycling, on-site composting, and mulching, where feasible, at municipal facilities, as well as using resource efficient landscaping techniques in new or renovated medians and parks.
- CF-11.4: Encourage residential, commercial, and industrial recycling and reuse programs and techniques.
- CF-11.5: Coordinate with and support other local agencies and jurisdictions in the region to develop and implement effective waste management strategies and waste-to-energy technologies.

Policies: Resource Conservation Element

- RC-4.1: Prepare for and respond to the expected impacts of climate change.
- RC-4.2: Assess and monitor the effects of climate change and the associated levels of risk in order to adapt to changing climate conditions and be resilient to negative changes and impacts associated with climate change.
- RC-5.1: Ensure that land use and circulation improvements are coordinated to reduce the number and length of vehicle trips.
- RC-5.2: Encourage private development to explore and apply non-traditional energy sources such as co-generation, wind, and solar to reduce dependence on traditional energy sources.
- RC-5.3: Require all new public and privately constructed buildings to meet and comply with construction and design standards that promote energy conservation, including the most current "green" development standards in the California Green Building Standards Code.
- RC-5.4: Support innovative and green building best practices including, but not limited to, LEED certification for all new development, and encourage public and private projects to

exceed the most current "green" development standards in the California Green Building Standards Code.

- RC-5.5: Encourage the conservation of public utilities.
- RC-5.6: Encourage the conservation of petroleum products.
- RC-6.1: Coordinate with the San Joaquin Valley Air Pollution Control District (Air District), San Joaquin Council of Governments, and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with the Air District, SJCOG, and State Air Board in:
    - Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.
    - Identifying baseline air pollutant and greenhouse gas emissions.
    - Encouraging economy clean fuel for city vehicle fleets, when feasible.
    - Developing consistent procedures for evaluating and mitigating project-specific and cumulative air quality impacts of projects.
- RC-6.2: Minimize exposure of the public to toxic or harmful air emissions and odors through requiring an adequate buffer or distance between residential and other sensitive land uses and land uses that typically generate air pollutants, toxic air contaminants, or obnoxious fumes or odors, including but not limited to industrial, manufacturing, and processing facilities, highways, and rail lines.
- RC-6.3: Ensure that new construction is managed to minimize fugitive dust and construction vehicle emissions.
- RC-6.4: Require appliances and equipment, including wood-burning devices, in development projects to meet current standards for controlling air pollution, including particulate matter and toxic air contaminants.
- RC-6.5: Require and/or cooperate with the Air District to ensure that burning of any combustible material within the City is consistent with Air District regulations to minimize particulate air pollution.

Implementation: Resource Conservation Element

- RC-4a: Continue to assess and monitor performance of greenhouse gas emissions reduction efforts, including progress toward meeting longer-term GHG emissions reduction goals for 2035 and 2050 by reporting on the City's progress annually, updating the Climate Action Plan and GHG inventory regularly to demonstrate consistency with State-adopted GHG reduction targets, including those targets established beyond 2020, and updating the GHG Strategy in the General Plan, as appropriate.

- RC-4b: When updating master plans for infrastructure, including water supply, flood control, and drainage, and critical facilities, review relevant climate change scenarios and ensure that the plans consider the potential effects of climate change and include measures to provide resilience.

- RC-4c: Incorporate the likelihood of climate change impacts into City emergency response planning and training.

- RC-5a: Implement development standards and best practices that promote energy conservation and the reduction in greenhouse gases, including:

    - Require new development to be energy-efficient through passive design concepts (e.g., techniques for heating and cooling, building siting orientation, street and lot layout, landscape placement, and protection of solar access;

    - Require construction standards which promote energy conservation including window placement, building eaves, and roof overhangs;

    - Require all projects to meet minimum State and local energy conservation standards;

    - Require best practices in selecting construction methods, building materials, project appliances and equipment, and project design;

    - Encourage and accommodate projects that incorporate alternative energy;

    - Encourage projects to incorporate enhanced energy conservation measures and other voluntary methods of reducing energy usage and greenhouse gas emissions; and

    - Require large energy users to implement an energy conservation plan as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.

- RC-5b: Continue to review development projects to ensure that all new public and private development complies with the California Code of Regulations, Title 24 standards as well as the energy efficiency standards established by the General Plan and the Municipal Code.

- RC-5c: Develop a public education program to increase public participation in energy conservation.

- RC-5d: Connect residents and businesses with programs that provide free or low-cost energy efficiency audits and retrofits to existing buildings.

- RC-5e: Update the Municipal Code to incentivize the use of small-scale renewable energy facilities and, where appropriate, to remove impediments to such uses.

- RC-5f: Cooperate with other agencies, jurisdictions, and organizations to expand energy conservation programs.

- RC-5g: Explore alternative energy sources, including co-generation, active solar energy, and wind generation, and identify opportunities for alternative energy to be used in public and private projects.

- RC-5h: Implement transportation measures, as outlined in the Circulation Element, which reduce the need for automobile use and petroleum products.

- RC-6a: Work with the Air District to implement the Air Quality Management Plan (AQMP).

    - Cooperate with the Air District to develop consistent and accurate procedures for evaluating project-specific and cumulative air quality impacts.

    - Cooperate with the Air District and the State Air Board in their efforts to develop a local airshed model.

    - Cooperate with the Air District in its efforts to develop a cost/benefit analysis of possible control strategies (mitigation measures to minimize short and long-term stationary and area source emissions as part of the development review process, and monitoring measures to ensure that mitigation measures are implemented.

- RC-6b: Review development, land use, transportation, and other projects that are subject to CEQA for potentially significant climate change and air quality impacts, including toxic and hazardous emissions and require that projects provide adequate, appropriate, and cost-effective mitigation measures reduce significant and potentially significant impacts. This includes, but is not limited to, the following:

    - *Use of the Air District "Guide for Assessing and Mitigating Air Quality Impacts", as may be amended or replaced from time to time, in identifying thresholds, evaluating potential project and cumulative impacts, and determining appropriate mitigation measures;*
    - *Contact the Air District for comment regarding potential impacts and mitigation measures as part of the evaluation of air quality effects of discretionary projects that are subject to CEQA;*
    - *Require projects to participate in regional air quality mitigation strategies, including Air District-required regulations, as well as recommended best management practices when applicable and appropriate ;*
    - *Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
    - *The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.);*
    - *The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable; and*
    - *Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds;*
    - *The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from highways, arterial streets, hazardous material locations and other sources of air pollution or odor;*
    - *Identify sources of toxic air emissions and, if appropriate, require preparation of a health risk assessment in accordance with Air District-recommended procedures; and*
    - *Circulate the environmental documents for projects with significant air quality impacts to the Air District for review and comment.*

- RC-6c: Review area and stationary source projects that could have a significant air quality impact, either individually or cumulatively, to identify the significance of potential impacts and ensure that adequate air quality mitigation is incorporated into the project, including:
    - *The use of best available and economically feasible control technology for stationary industrial sources;*
    - *All applicable particulate matter control requirements of Air District Regulation VIII;*
    - *The use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
    - *Provision of adequate electric or natural gas outlets to encourage use of natural gas or electric barbecues and electric gardening equipment; and*
    - *Use of alternative energy sources.*

- RC-6d: Maintain adequate data to analyze cumulative land use impacts on air quality and climate change. This includes tracking proposed, planned, and approved General Plan amendments, development, and land use decisions so that projects can be evaluated for cumulative air quality impacts, including impacts associated with transportation and land use decisions.

- RC-6e: Prior to entitlement of a project that may be an air pollution point source, such as a manufacturing and extracting facility, the developer shall provide documentation that the use is located and appropriately separated from residential areas and sensitive receptors (e.g., homes, schools, and hospitals).

- RC-6f: Construction activity plans shall include and/or provide for a dust management plan to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard.

  Project development applicants shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction.

City of Manteca Municipal Code

Chapter 17.58 of the Manteca Municipal Code describes the odor, particulate matter, and air containment standards (consistent with the rules and regulations of the SJVAPCD and the California Health and Safety Code. Chapter 15.62 of the Municipal Code provides expedited permitting procedures for electric vehicle charging stations. Furthermore, Chapter 15.60 describes the solar energy system requirements associated with small residential rooftop solar energy systems within the City.

San Joaquin Valley Air Pollution Control District

The primary role of SJVAPCD is to develop plans and implement control measures in the SJVAB to control air pollution. These controls primarily affect stationary sources such as industry and power plants. Rules and regulations have been developed by SJVAPCD to control air pollution from a wide range of air pollution sources. SJVAPCD also provides uniform procedures for assessing potential air quality impacts of proposed projects and for preparing the air quality section of environmental documents.

AIR QUALITY PLANNING

The U.S. EPA requires states that have areas that do not meet the National AAQS to prepare and submit air quality plans showing how the National AAQS will be met. If the states cannot show how the National AAQS will be met, then the states must show progress toward meeting the National AAQS. These plans are referred to as the State Implementation Plans (SIP). California's adopted 2007 State Strategy was submitted to the U.S. EPA as a revision to its SIP in November 2007.[2] More recently, in October 2018, the CARB adopted the 2018 Updates to the California State Implementation Plan.

In addition, the CARB requires regions that do not meet California AAQS for ozone to submit clean air plans (CAPs) that describe measures to attain the standard or show progress toward attainment. To ensure federal CAA compliance, SJVAPCD is currently developing plans for meeting new National AAQS for ozone and $PM_{2.5}$ and the California AAQS for PM_{10} in the SJVAB (for California CAA compliance)[3] The following describes the air plans prepared by the SJVAPCD, which are incorporated by reference per CEQA Guidelines Section 15150.

1-HOUR OZONE PLAN

Although U.S. EPA revoked its 1979 1-hour ozone standard in June 2005, many planning requirements remain in place, and SJVAPCD must still attain this standard before it can rescind CAA Section 185 fees. The SJVAPCD's most recent 1-hour ozone plan, the 2013 Plan for the Revoked 1-hour Ozone Standard, demonstrated attainment of the 1-hour ozone standard by 2017. However, on July 18, 2016, the U.S. EPA published in the Federal Register a final action determining that SJVAB has attained the 1-hour ozone NAAQS based on the 2012 to 2014 three-year period allowing nonattainment penalties to be lifted under federal Clean Air Act section 179b (SJVAPCD, 2015).

8-HOUR OZONE PLAN

The SJVAPCD's Governing Board adopted the 2007 Ozone Plan on April 30, 2007. This far-reaching plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard as set by U.S. EPA in 1997. The plan projects that the valley will achieve the 8-hour ozone standard for all areas of the SJVAB no later than 2023. The CARB approved the plan on June 14, 2007. The U.S. EPA approved the 2007 Ozone Plan effective April 30, 2012. SJVAPCD adopted the 2016 Ozone Plan to address the federal 2008 8-hour ozone standard, which must be attained by end of 2031.[4,5]

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[2] Note that the plan was adopted by CARB on September 27, 2007; California Air Resources Board. 2007. California Air Resources Board's Proposed State Strategy for California's 2007 State Implementation Plan.

[3] SJVAPCD, 2012. 2012 $PM_{2.5}$ Plan, December 20.

[4] SJVAPCD. Ozone Plans. http://www.valleyair.org/ Air_Quality_Plans/Ozone_Plans.htm, accessed March 3, 2020.

[5] SJVAPCD. 2016 Plan for the 2008 8-Hour Ozone Standard, http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm, accessed March 3, 2020.

PM$_{10}$ PLAN

Based on PM$_{10}$ measurements from 2003 to 2006, the U.S. EPA found that the SJVAB has reached federal PM$_{10}$ standards. On September 21, 2007, the SJVAPCD's Governing Board adopted the 2007 PM$_{10}$ Maintenance Plan and Request for Redesignation. This plan demonstrates that the valley will continue to meet the PM$_{10}$ standard. U.S. EPA approved the document and on September 25, 2008, the SJVAB was redesignated to attainment/maintenance (SJVAPCD, 2015).

PM2.5 PLAN

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 PM$_{2.5}$ Standards on November 15, 2018.[6] This plan addresses the U.S. EPA federal 1997 annual PM$_{2.5}$ standard of 15 µg/m³ and 24-hour PM$_{2.5}$ standard of 65 µg/m³; the 2006 24-hour PM$_{2.5}$ standard of 35 µg/m³; and the 2012 annual PM$_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal PM$_{2.5}$ standards as expeditiously as practicable (SJVAPCD, 2020).

All of the above-referenced plans include measures (i.e., federal, state, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the SJVAB. Transportation control measures are part of these plans.

SJVAPCD RULES AND REGULATIONS

SJVAPCD Indirect Source Review

On December 15, 2005, SJVAPCD adopted the Indirect Source Review Rule (ISR or Rule 9510) to reduce ozone precursors (i.e., ROG and NOx) and PM$_{10}$ emissions from new land use development projects. Specifically, Rule 9510 targets the indirect emissions from vehicles and construction equipment associated with these projects and applies to both construction and operational-related impacts. The rule applies to any applicant that seeks to gain a final discretionary approval for a development project, or any portion thereof, which upon full buildout would include any one of the following:

- 50 residential units.
- 2,000 square feet of commercial space.
- 25,000 square feet of light industrial space.
- 100,000 square feet of heavy industrial space.
- 20,000 square feet of medical office space.
- 39,000 square feet of general office space.
- 9,000 square feet of educational space.
- 10,000 square feet of government space.
- 20,000 square feet of recreational space.
- 9,000 square feet of space not identified above.
- Transportation/transit projects with construction exhaust emissions of two or more tons of

[6] SJVAPCD. Particulate Matter Plans. http://valleyair.org/Air_Quality_Plans/PM_Plans.htm, accessed March 9, 2020.

NOx or two or more tons of PM_{10}.

- Residential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, regardless of the number of tract maps, and has the capability of accommodating more than 50 residential units.
- Nonresidential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, and has the capability of accommodating development projects that emit two or more tons per year of NOx or PM_{10} during project operations.

The rule requires all subject, nonexempt projects to mitigate both construction and operational period emissions by (1) applying feasible SJVAPCD-approved mitigation measures, or (2) paying any applicable fees to support programs that reduce emissions. Off-site emissions reduction fees (off-site fee) are required for projects that do not achieve the required emissions reductions through on-site emission reduction measures. Phased projects can defer payment of fees in accordance with an Off-site Emissions Reduction Fee Deferral Schedule (FDS) approved by the SJVAPCD.

To determine how an individual project would satisfy Rule 9510, each project would submit an air quality impact assessment (AIA) to the SJVAPCD as early as possible, but no later than prior to the project's final discretionary approval, to identify the project's baseline unmitigated emissions inventory for indirect sources: on-site exhaust emissions from construction activities and operational activities from mobile and area sources of emissions (excludes fugitive dust and permitted sources). Rule 9510 requires the following reductions, which are levels that the SJVAPCD has identified as necessary, based on their air quality management plans, to reach attainment for ozone and particulate matter:

Construction Equipment Emissions

The exhaust emissions for construction equipment greater than 50 horsepower (hp) used or associated with the development project shall be reduced by the following amounts from the statewide average as estimated by CARB:

- 20 percent of the total NOx emissions
- 45 percent of the total PM_{10} exhaust emissions

Mitigation measures may include those that reduce construction emissions on-site by using less polluting construction equipment, which can be achieved by utilizing add-on controls, cleaner fuels, or newer, lower emitting equipment.

Operational Emissions

- NOx Emissions. Applicants shall reduce 33.3 percent of the project's operational baseline NOx emissions over a period of 10 years as quantified in the approved AIA.
- PM_{10} Emissions. Applicants shall reduce of 50 percent of the project's operational baseline PM_{10} emissions over a period of 10 years as quantified in the approved AIA.

These requirements listed above can be met through any combination of on-site emission reduction measures. In the event that a project cannot achieve the above standards through imposition of mitigation measures, then the project would be required to pay the applicable off-site fees. These fees are used to fund various incentive programs that cover the purchase of new equipment, engine retrofit, and education and outreach.

Fugitive PM_{10} Prohibitions

SJVAPCD controls fugitive PM_{10} through Regulation VIII, Fugitive PM_{10} Prohibitions. The purpose of this regulation is to reduce ambient concentrations of PM_{10} and $PM_{2.5}$ by requiring actions to prevent, reduce, or mitigate anthropogenic (human caused) fugitive dust emissions.

- Regulation VIII, Rule 8021 applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on-site, and travel on access roads to and from the site.
- Regulation VIII, Rule 8031 applies to the outdoor handling, storage, and transport of any bulk material.
- Regulation VIII, Rule 8041 applies to sites where carryout or trackout has occurred or may occur on paved roads or the paved shoulders of public roads.
- Regulation VIII, Rule 8051 applies to any open area having 0.5 acre or more within urban areas or 3.0 acres or more within rural areas, and contains at least 1,000 square feet of disturbed surface area.
- Regulation VIII, Rule 8061 applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.
- Regulation VIII, Rule 8071 applies to any unpaved vehicle/equipment traffic area.
- Regulation VIII, Rule 8081 applies to off-field agricultural sources.

Sources regulated are required to provide Dust Control Plans that meet the regulation requirements. Under Rule 8021, a Dust Control Plan is required for any residential project that will include 10 or more acres of disturbed surface area, a nonresidential project with 5 or more acres of disturbed surface area, or a project that relocates 2,500 cubic yards per day of bulk materials for at least three days. The Dust Control Plan is required to be submitted to SJVAPCD prior to the start of any construction activity. The Dust Control Plan must also describe fugitive dust control measure to be implemented before, during, and after any dust-generating activity. For sites smaller than those listed above, the project is still required to notify SJVAPCD a minimum of 48 hours prior to commencing earthmoving activities.

National Emission Standards for Hazardous Air Pollutants

Rule 4002 applies in the event an existing building will be renovated, partially demolished or removed (National Emission Standards for Hazardous Air Pollutants); this rule applies to all sources of Hazardous Air Pollutants.

Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations

If asphalt paving will be used, then paving operations of the proposed Project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.

Nuisance Odors

SJVAPCD controls nuisance odors through implementation of Rule 4102, Nuisance. Pursuant to this rule, "a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials 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 person or the public or which cause or have a natural tendency to cause injury or damage to business or property."

Employer Based Trip Reduction Program

SJVAPCD has implemented Rule 9410, Employer Based Trip Reduction. The purpose of this rule is to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NOx, ROG, and particulate matter (PM_{10} and $PM_{2.5}$). The rule applies to employers with at least 100 employees. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate the participation of the development of ETRIPs by providing information to its employees explaining the requirements and applicability of this rule. Employers are required to prepare and submit an ETRIP for each worksite to the District. The ETRIP must be updated annually. Under this rule, employers shall collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined in using either the mandatory commute verification method or a representative survey method. Annual reporting includes the results of the commute verification for the previous calendar year along with the measures implemented as outlined in the ETRIP and, if necessary, any updates to the ETRIP.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with air quality if it will:

- 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 project region is in non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

CRITERIA POLLUTANT EMISSIONS MODELING

California Emission Estimator Model (CalEEMod)™ (v.2022.1), developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with California air districts, was used to estimate emissions for the proposed Project. Project buildout was assumed to be completed in 2025. This may prove to be a conservative estimate, because criteria pollutant emission rates are reduced over time (due to state and federal mandates) and would be expected to be even lower than reported in this analysis, should the Project buildout be completed after 2025.

The assumptions for the modeling were selected on a best-fit basis, and are consistent with the information provided in Chapter 2.0: Project Description. The land uses modeled include: Single Family Housing – (715 dwelling units); Condo/Townhouse – (200 dwelling units); and City Park – (10.37 acres). Vehicle trip rates estimated in the modeling are consistent with the vehicle trips rates included in the modeling developed by Fehr & Peers. The construction phase includes demolition, site preparation, grading, building construction, paving, and architectural coating phases. See Appendix B for further detail.

IMPACTS RELATED TO PROJECT-GENERATED POLLUTANTS OF HUMAN HEALTH CONCERN

In December 2018, the California Supreme Court issued its decision in *Sierra Club v. County of Fresno* (226 Cal.App.4th 704) (hereafter referred to as the Friant Ranch Decision). The case reviewed the long-term, regional air quality analysis contained in the EIR for the proposed Friant Ranch development. The Friant Ranch Project is a 942-acre master-plan development in unincorporated Fresno County within the San Joaquin Valley Air Basin. The Court found that the air quality analysis was inadequate because it failed to provide enough detail "for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time." The Court's decision clarifies that the agencies authoring environmental documents must make reasonable efforts to connect a project's significant air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

All criteria pollutants that would be generated by the Project are associated with some form of health risk (e.g., asthma). Criteria pollutants can be classified as either regional or localized pollutants. Regional pollutants can be transported over long distances and affect ambient air quality far from the emissions source. Localized pollutants affect ambient air quality near the emissions source. Ozone is considered a regional criteria pollutant, whereas CO, NO_2, SO_2, and lead (Pb) are localized pollutants. PM can be both a local and a regional pollutant, depending on its composition. As discussed above, the primary criteria pollutants of concern generated by the Project are ozone precursors (ROG and NO_x) and PM (including Diesel PM). The SJVAPCD does not currently have a methodology that would correlate the expected air quality emissions of Projects to the likely health consequences of the increased emissions. As discussed below, the Project would not make a cumulatively considerable contribution to the air basin's significant cumulative criteria air pollutant emissions because Project emissions would be below SJVAPCD's thresholds. SJVAPCD's thresholds are set at levels that the addition of emissions would still allow the SJVAPCD to come into compliance with the CAAQS and NAAQS. Because the CAAQS and NAAQS are set at levels protective of human health, emissions below the SJVAPCD thresholds also would not have a significant impact on human health.

Regional Project-Generated Criteria Pollutants (Ozone Precursors and Regional PM)

Adverse health effects induced by regional criteria pollutant emissions generated by the Project (ozone precursors and PM) are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). For these reasons, ozone precursors (ROG and NO_x) contribute to the formation of ground-borne ozone on a regional scale, where emissions of ROG and NO_x generated in one area may not equate to a specific ozone concentration in that same area. Similarly, some types of particulate pollutants may be transported over long-distances or formed through atmospheric reactions. As such, the magnitude and locations of specific health effects from exposure to increased ozone or regional PM concentrations are the product of emissions generated by numerous sources throughout a region, as opposed to a single individual project.

Models and tools have been developed to correlate regional criteria pollutant emissions to potential community health impacts. Appendix B contains a table that summarizes many of these tools, identifies the analyzed pollutants, describes their intended application and resolution, and analyzes whether they could be used to reasonably correlate project-level emissions to specific health consequences. As provided in Appendix B, while there are models capable of quantifying ozone and secondary PM formation and associated health effects, these tools were developed to support regional planning and policy analysis and have limited sensitivity to small changes in criteria pollutant concentrations induced by individual projects. Therefore, translating project generated criteria pollutants to the locations where specific health effects could occur or the resultant number of additional days of nonattainment cannot be estimated with a high degree of accuracy.

Technical limitations of existing models to correlate project-level regional emissions to specific health consequences are recognized by air quality management districts throughout the state, including the SJVAPCD and South Coast Air Quality Management District (SCAQMD), who provided amici curiae briefs for the Friant Ranch legal proceedings. In its brief, SJVAPCD (2015) acknowledges that while health risk assessments for localized air toxics, such as DPM, are commonly prepared, “it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task.” The air district further notes that emissions solely from the Friant Ranch Project (which equate to less than one-tenth of one percent of the total NO_x and VOC in the Valley) is not likely to yield valid information,” and that any such information likely would not be “accurate when applied at the local level.” SCAQMD presents similar information in their brief, stating that “it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels”[7].

[7] For example, SCAQMD’s analysis of their 2012 Air Quality Attainment Plan showed that modeled NO_x and ROG reductions of 432 and 187 tons per day, respectively, only reduced ozone levels by 9 parts per billion. Analysis of SCAQMD’s Rule 1315 showed that emissions of NO_x and ROG of 6,620 and 89,180 pounds per day, respectively, contributed to 20 premature deaths per year and 89,947 school absence (South Coast Air Quality Management District, 2015).

As discussed above, air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment or nonattainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is cumulative problem, air districts typically consider projects that generate criteria pollutant and ozone precursor emissions below these thresholds to be minor in nature and would not adversely affect air quality such that the NAAQS or CAAQS would be exceeded. Because these thresholds are set to be protective of human health, emissions below air district thresholds also are considered to have a less than significant health impact.

Models and Tools to Correlate Project-generated Criteria Pollutant Emissions to Health Impacts

Although available tools to correlate Project-generated criteria pollutant emissions to health impacts are designed to be used at the national, state, regional, and/or city-levels rather than the project level, this impact analysis includes CalEEMod modeling to identify criteria pollutant emissions that affect health. The higher the emissions generated by a project, the higher the chance that a given individual's health would be affected by the development of a particular project.

The impact analysis does not directly evaluate airborne lead. Neither construction nor future operations would generate quantifiable lead emissions because of regulations that require unleaded fuel and that prohibit lead in new building materials.

TAC emissions associated with Project construction that could affect surrounding areas are evaluated qualitatively. The potential for the Project operations to expose residents to TAC emissions that would exceed applicable health standards is analyzed qualitatively.

Lastly, the SJVPACD recommends that odor impacts be addressed in a qualitative manner. Such an analysis must determine if the Project would result in excessive nuisance odors, as defined under the SJVAPCD's Rule 4102 and California Code of Regulations, Health and Safety Code Section 41700, Air Quality Public Nuisance.

IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Project operation has the potential to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan. (Less than Significant)

The SJVAPCD is tasked with implementing programs and regulations required by the Federal Clean Air Act and the California Clean Air Act. In that capacity, the SJVAPCD has prepared plans to attain Federal and State ambient air quality standards. To achieve attainment with the standards, the SJVAPCD has established thresholds of significance for criteria pollutant emissions in their *SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts* (2015). Projects with emissions below the thresholds of significance for criteria pollutants would be determined to "Not conflict or obstruct implementation of the District's air quality plan".

The proposed Project would be both a direct and indirect source of air pollution. Direct sources of pollution include area, energy, and water and waste sources, due to development of the on-site buildings and associated infrastructure. Indirect sources of pollution would be due to the generation of trips of from vehicles traveling to and from the Project site.

CalEEMod™ (v.2022.1) was used to model operational emissions of the proposed Project. Table 3.3-6 shows proposed Project emissions as provided by CalEEMod. The SJVAPCD provides a list of applicable air quality emissions thresholds.

TABLE 3.3-6: OPERATIONAL PROJECT GENERATED EMISSIONS (TONS PER YEAR)

POLLUTANT	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$
THRESHOLD	100	10	10	27	15	15
EMISSIONS	37.7	2.2	7.0	0.1	11.0	2.8
EXCEEDS THRESHOLD?	**N**	**N**	**N**	**N**	**N**	**N**

SOURCES: CALEEMOD (V.2022.1)

The SJVAPCD has established their thresholds of significance by which the Project emissions are compared against to determine the level of significance. The SJVAPCD has established operations related emissions thresholds of significance as follows: 100 tons per year of carbon monoxide (CO, 10 tons per year of oxides of nitrogen (NO_x), 10 tons per year of reactive organic gases (ROG), 27 tons per year of sulfur oxides (SO_x), 15 tons per year particulate matter of 10 microns or less in size (PM_{10}), and 15 tons per year particulate matter of 2.5 microns or less in size ($PM_{2.5}$). If the proposed Project's emissions will exceed the SJVAPCD's threshold of significance for operational-generated emissions, the proposed Project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions to the extent feasible. As shown in Table 3.3-6 above, operational emissions would not exceed any of the SJVACPD operational thresholds of significance.

It should be noted that the emissions of ozone precursors such as ROG and NO_x attributable to the proposed Project would not be substantial enough on a regional basis for the City to be able, with currently available technical tools, to predict how the emissions of such pollutants would translate into either physical environmental changes, such as measurable effects on ambient ozone concentrations within the air basin, or health effects, such as increased respiratory problems, within any discrete population within the City or the region. Such an analysis is not reasonably feasible within the meaning of CEQA because it would require a level of speculation.

PROJECT EFFECTS ON PUBLIC HEALTH

San Joaquin County has a state designation of Nonattainment for ozone, PM_{10} and $PM_{2.5}$. The SJVAPCD developed these Project-level thresholds based on the emissions that would exceed a CAAQS or contribute substantially to an existing or projected violation of a CAAQS. Ambient levels of these criteria pollutants are likely to decrease in the future, based on current and future implementation of federal and/or state regulatory requirements, such as improvements to the statewide vehicle fleet over time (including the long-term replacement of internal combustion engine vehicles with electric vehicles in coming decades).

Ozone

O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) (also known as ROG) and oxides of nitrogen (NO_x) in the presence of sunlight. The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2019a). The concentration of ozone at which health effects are observed depends on an individual’s sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2019b).

The Project would generate emissions of ROG and NOx during Project operational activities, as shown in Table 3.3-6. Increases in ROG and NOx could affect people with impaired respiratory systems, but also healthy adults and children. However, the increases of these pollutants generated by the proposed Project are under the applicable thresholds, which are set to be protective of human health, accounting for cumulative emissions in the air district. The increases in ROG and NOx generated by the proposed Project when combined with the existing ROG and NOx emitted regionally, would have a less than significant health impact.

Particulate Matter

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, PM can cause major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death. Small particulate pollution has health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed. The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2019c).

The Project would generate emissions of PM during Project operational activities, as shown in Table 3.3-6. Although the exact effects of such emissions on local health are not known, it is likely that the increases in PM generated by the proposed Project would be minimal, even for people with impaired respiratory systems, located in the immediate vicinity of the Project site. The increases of these pollutants generated by the proposed Project would not on their own generate an increase in the number of days exceeding the NAAQS or CAAQS standards. In addition, because PM generated by the proposed Project is less than the air district's threshold, such emissions when combined with the existing PM emitted regionally would have minimal health effect on people located in the immediate vicinity of the Project site.

Discussion

The magnitude and locations of any potential changes in ambient air quality, and thus health consequences, from these additional emissions cannot be quantified with a high level of certainty due to the dynamic and complex nature of pollutant formation and distribution (e.g., meteorology, emissions sources, sunlight exposure), as well as the variabilities in the receptors that reside in a particular area. Additionally, SJVAPCD has not established any methodology or thresholds (quantitative or qualitative) for assessing the health effects from criteria pollutants.

From a qualitative perspective, it is well documented from scientific studies that criteria pollutants can have adverse health effects. The federal and state governments have established the NAAQS or CAAQS as an attempt to regionally, and cumulatively, assess and control the health effects that criteria pollutants have within Air Basins. It is anticipated that public health will continue to be affected by the emission of criteria pollutants, especially by those with impaired respiratory systems in the City of Manteca and the surrounding region so long as the region does not attain the CAAQS or NAAQS. However, the Project's emissions would not make a cumulatively considerable contribution to the region's exceedances of the CAAQS or NAAQS and therefore would be expected to have minimal health effects on people located in the immediate vicinity of the Project site.

CONCLUSION

As shown in Table 3.3-6, the proposed Project's operational criteria pollutant would not exceed the applicable SJVAPCD thresholds of significance. Therefore, the Project's criteria pollutant emissions would be considered to have a **less than significant** impact. Further the analysis of criteria air pollutants is inherently cumulative, and impacts also would be **less than cumulatively considerable**.

Impact 3.3-2: Proposed Project construction activities would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan. (Less than Significant with Mitigation)

Emissions from construction activities represent temporary impacts that are typically short in duration, depending on the size, phasing, and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant localized impacts to air quality. Construction-related activities would result in Project-generated emissions from demolition, site preparation, grading, paving, building construction, and architectural coatings. CalEEMod™ (v.2022.1) was used to estimate construction emissions for the proposed Project. Table 3.3-7, below, provides the construction criteria pollutant emissions associated with implementation of the proposed Project.

TABLE 3.3-7: MAXIMUM CONSTRUCTION PROJECT GENERATED EMISSIONS (TONS PER YEAR) - MITIGATED

POLLUTANT	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$
THRESHOLD	100	10	10	27	15	15
EMISSIONS	4.3	2.5	3.0	<0.1	0.6	0.2
EXCEEDS THRESHOLD?	**N**	**N**	**N**	**N**	**N**	**N**

SOURCES: CALEEMOD (V.2022.1)

If the proposed Project's emissions will exceed the SJVAPCD's threshold of significance for construction-generated emissions, the proposed Project will have a significant impact on air quality and conflict with the Clean Air Plan and all feasible mitigation are required to be implemented to reduce emissions. As shown in Table 3.3-7, Project maximum construction emissions would not exceed the SJVAPCD thresholds of significance. Nevertheless, regardless of emission quantities, the SJVAPCD requires construction related mitigation in accordance with their rules and regulations. Implementation of the Mitigation Measure 3.3-1 through 3.3-4 would further reduce proposed Project construction related emissions to the extent possible.

CONCLUSION

The proposed Project would comply with pre-existing requisite federal, State, SJVAPCD, and other local regulations and requirements, as well as implement the mitigation measures provided by the SJVAPCD for construction-related PM_{10} emissions, including those provided in Mitigation Measure 3.3-1 through 3.3-4. Therefore, the Project's criteria pollutant emissions would be considered to have a **less than significant** impact and the Project would not impede or conflict with the Clean Air Plan.

MITIGATION MEASURE(S)

Mitigation Measure 3.3-1: *Prior to the issuance of a Grading Permit for each phase of the Project, the Project Proponent shall prepare and submit a Dust Control Plan that meets all of the applicable requirements of APCD Rule 8021, Section 6.3, for the review and approval of the APCD Air Pollution*

Control Officer.

***Mitigation Measure 3.3-2:** During all construction activities, the Project Proponent shall implement dust control measures, as required by APCD Rules 8011-8081, to limit Visible Dust Emissions to 20% opacity or less. Dust control measures shall include application of water or chemical dust suppressants to unpaved roads and graded areas, covering or stabilization of transported bulk materials, prevention of carryout or trackout of soil materials to public roads, limiting the area subject to soil disturbance, construction of wind barriers, access restrictions to inactive sites as required by the applicable rules.*

***Mitigation Measure 3.3-3:** During all construction activities, the Project proponent shall implement the following dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (2002).*

- *a. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.*
- *b. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.*
- *c. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall control fugitive dust emissions by application of water or by presoaking.*
- *d. When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained.*
- *e. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.*
- *f. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.*
- *g. Limit traffic speeds on unpaved roads to 5 mph.*
- *h. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.*

***Mitigation Measure 3.3-4:** Asphalt paving shall be applied in accordance with APCD Rule 4641, the purpose of which is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations. The Project Applicant shall coordinate with the APCD, prior to Project asphalt paving activities, to ensure all Project asphalt paving would comply with this rule. The Project Applicant shall provide the City of Manteca with evidence of consultation with the APCD, including confirmation of compliance with APCD Rule 4641.*

Impact 3.3-3: The proposed Project would not generate carbon monoxide hotspot impacts. (Less than Significant)

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (U.S. EPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels could increase the risk of such incidences.

The Project site is located in a State attainment area and a federal attainment-unclassified area for carbon monoxide. In addition, CO emissions under Project operation are below the applicable significance threshold promulgated by the SJVAPCD. Therefore, no project-level conformity analysis is necessary for CO. Increases in proposed Project VMT would increase concentrations of carbon monoxide (CO) along streets and intersections that provide access to the Project site. Carbon monoxide is a local pollutant (i.e., high concentrations are normally only found very near sources), and can form local elevated concentrations under specific conditions. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations (i.e., hotspots), therefore, are usually only found near areas of very high traffic volume and congestion.

Consider the CO "hot spot" analysis conducted by the South Coast Air Quality Management District (SCAQMD) for their request to the USEPA for resignation as a CO attainment area (SCAQMD 2003). In SCAQMD's analysis, they modeled the four most congested intersections identified in their basin (South Coast Air Basin [SCAB]), which included the following:

- Long Beach Boulevard and Imperial Highway – proximity to the Lynwood monitoring station, which consistently records the highest 8-hour CO concentrations in the SCAB each year.
- Wilshire Boulevard and Veteran Avenue – the most congested intersection in Los Angeles County, with an average daily traffic volume of 100,000 vehicles/day.
- Highland Avenue and Sunset Boulevard – one of the most congested intersections in the City of Los Angeles.
- Century Boulevard and La Cienega Boulevard – one of the most congested intersections in the City of Los Angeles.

The SCAQMD's analysis found that these intersections had an average 7.7 ppm 1-hour CO concentrations predicted by the models, which is only 38.5% of the 1-hour CO CAAQS of 20 ppm. Therefore, even the most congested intersections in SCAQMD's air basin would not experience a CO "hot spot."

Several factors combine to make substantial concentrations of carbon monoxide unlikely. Existing physical constraints such as high-density, high-profile buildings or other obstructions that could prevent dispersion of carbon monoxide are largely absent. Predominant weather conditions in the area include air movement that would help facilitate carbon monoxide dispersion. Congested traffic conditions that otherwise could result in concentration of carbon monoxide would be of short duration. Further, under existing regulatory and legislative mandates, emissions volumes from all vehicles classes will continue to decline. Given these factors, substantial concentrations of carbon monoxide are not expected at or along any affected roadways or intersections. Finally, for the Project, there are no roadways/segments identified as deficient facilities under the worst-case traffic scenario that have an ADT greater than the 100,000 that was anticipated for the most congested intersection analyzed by SCAQMD and which still did not have a significant hotspot impact.[8]

CONCLUSION

This Project is located in an area that is designated attainment and attainment-unclassified for carbon monoxide. No Project-level conformity analysis is necessary for CO. Substantial concentrations of carbon monoxide are not expected at or along any streets or intersections affected by the development of the Project site. Impacts associated with carbon monoxide hotspots would be **less than significant**, and no additional mitigation is required.

Impact 3.3-4: The proposed Project has the potential for public exposure to toxic air contaminants. (Less than Significant)

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at very low concentrations. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the state and federal governments have set ambient air quality standards.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. EPA regulate 188 air toxics, also known as hazardous air pollutants. The U.S. EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources. In addition, the U.S. EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment. These are acrolein, benzene, 1,3-butidiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter.

The 2007 U.S. EPA rule requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent, a combined

[8] See: California Department of Transportation (Caltrans), Traffic Volumes. 2017 Traffic Volumes : Route 99. Available: https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017/route-99

reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050. California maintains stricter standards for clean fuels and emissions compared to the national standards, therefore it is expected that MSAT trends in California will decrease consistent with or more than the U.S. EPA's national projections.

The California Air Resources Board (CARB) published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB, 2005) to provide information to local planners and decision-makers about land use compatibility issues associated with emissions from industrial, commercial and mobile sources of air pollution. The CARB Handbook indicates that mobile sources continue to be the largest overall contributors to the State's air pollution problems, representing the greatest air pollution health risk to most Californians. The most serious pollutants on a statewide basis include diesel exhaust particulate matter (diesel PM), benzene, and 1,3-butadiene, all of which are emitted by motor vehicles. These mobile source air toxics are largely associated with freeways and high traffic roads. Non-mobile source air toxics are largely associated with industrial and commercial uses. Table 3.3-8 provides the California Air Resources Board minimum separation recommendations on siting sensitive land uses.

TABLE 3.3-8: CARB MINIMUM SEPARATION RECOMMENDATIONS ON SITING SENSITIVE LAND USES

SOURCE CATEGORY	*ADVISORY RECOMMENDATIONS*
Freeways and High-Traffic Roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	• Avoid siting new sensitive land uses 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 (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of pending analyses of health risks.
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloro-ethylene	• Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

SOURCES: AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE" (CARB 2005)

Residences are proposed as part of the Project, which are considered traditional sensitive receptors. Some residences located at the eastern portion of the Project site would be located within 500 feet of SR 99, which is within the CARB minimum separation recommendations for sensitive land uses, as provided in Table 3.3-10 but under CEQA, an EIR need not analyze the impacts of the existing environment on the Project.

No residual TAC emissions and corresponding cancer risk are anticipated after Project construction. The proposed Project is not anticipated to generate long-term, operational sources of TAC emissions because the proposed Project would only include residential land uses and public open space. The Project would not include heavy industrial uses or other land uses typically associated with stationary sources of TACs. As such, the Project would not result in substantial TAC emissions that may affect nearby receptors, nor would the Project be exposed to nearby sources of TACs. Impacts would be less than significant.

Since the proposed Project would not site land uses that would generate a significant risk of public exposure to TACs, the proposed Project would have a **less than significant** impact relative to this topic.

Impact 3.3-5: The proposed Project would not cause exposure to other emissions (such as those leading to odors) adversely affecting a substantial number of people. (Less than Significant)

The following text addresses odors. Other emissions (including criteria pollutants and TACs) are addressed in Impacts 3.3-1 through 3.3-4.

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD. The general nuisance rule (Health and Safety Code §41700) is the basis for the threshold.

Examples of facilities that are known producers of odors include: Wastewater Treatment Facilities, Chemical Manufacturing, Sanitary Landfill, Fiberglass Manufacturing, Transfer Station, Painting/Coating Operations (e.g. auto body shops), Composting Facility, Food Processing Facility, Petroleum Refinery, Feed Lot/Dairy, Asphalt Batch Plant, and Rendering Plant.

If a project proposes to locate receptors and known odor sources in proximity to each other, further analysis may be warranted. However, if a project would not locate receptors and known odor sources in proximity to each other, then further analysis is not warranted. The proposed Project does not include new industrial uses that are not already present in the vicinity of the Project site. Air district Rule 402 prohibits any mobile or stationary source generating an objectionable odor, with the exception of odors emanating from certain agricultural operations. The California Health and Safety Code §41700 and Air District Rule 402 prohibit emissions of air contaminants from any source that cause nuisance or annoyance to a considerable number of people or that present a threat to public health or cause property damage. Compliance with these rules would preclude land uses proposed under the proposed Project from emitting objectionable odors.

Odors would be potentially generated from vehicle and equipment exhaust emissions during construction of the Project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the Project site and generally occur at magnitudes that would not affect substantial numbers of people. Furthermore, SJVAPCD Rule 4641 limits the amount of VOC emissions from cutback asphalt. Thus, any potential odors generated during asphalt paving would be regulated through mandatory compliance with SJVAPCD rules. Therefore, impacts associated with odors during construction would be less than significant.

Land uses 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 Project would not include land uses that generate odors during operation. Therefore, Project operations would result in odor impacts that are less than significant.

CONCLUSION

The proposed Project does not propose uses that would create new odors that would adversely affect substantial numbers of people. Construction odors would be temporary, limited by compliance with SJVAPCD rules, and would not affect a substantial number of people. Therefore, construction and operation of the proposed Project would not result in significant objectionable odors. Impacts associated with exposure to odors would be **less than significant.**

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This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy conservation impacts that could result from Project implementation. The analysis contained in this section is intended to be at a Project-level, and covers impacts associated with the conversion of the entire site to urban uses. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis. The analysis and discussion of the GHG, climate change, and energy conservation impacts in this section focuses on the proposed Project's consistency with local, regional, and statewide climate change planning efforts and discusses the context of these planning efforts as they relate to the proposed Project. Disclosure and discussion of the Project's estimated energy usage and greenhouse gas emissions are provided.

There were no comments received during the NOP scoping process related to this environmental topic.

3.7.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs CO_2, CH_4, and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three GHGs have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial and electricity generation sectors (California Energy Commission, 2023).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 369 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2022 (California Air Resources Board, 2023).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2022, accounting for 38% of total GHG emissions in the State. This category was followed by the industrial sector (23%), the electricity generation sector (including both in-state and out of-state sources) (16%), the agriculture and forestry sector (9%), the residential energy consumption sector (8%), and the commercial energy consumption sector (6%) (California Air Resources Board, 2023).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the State. The snowpack portion of the supply could potentially decline by 50% to 75% by the end of the 21st century (National Resources Defense Council, 2014). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (California Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the Climate

Scenarios report (California Environmental Protection Agency, 2010), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and to 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major State fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the State (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70% to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to alter the distribution and character of natural vegetation thereby resulting in a possible increased risk of large wildfires. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the State. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60% to 80% by the end of the century as a result of increasing temperatures. The productivity of the State's forests is also expected to decrease as a result of global warming.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY PRODUCTION AND CONSUMPTION

Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 33% of electricity generated from renewable resources by 2020, 60 percent by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under AB 100).

Overall, in 2018, California's per capita energy usage was ranked fourth-lowest in the nation (U.S. EIA, 2020b). California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970's, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

The consumption of non-renewable energy (i.e. fossil fuels) associated with the operation of passenger, public transit, and commercial vehicles, results in GHG emissions that contribute to global climate change. Alternative fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. In 2016, more than one-fourth of the electricity supply comes from facilities outside of the State. Much of the power delivered to California from states in the Pacific Northwest was generated by wind. States in the Southwest delivered power generated at coal-fired power plants, at natural gas-fired power plants, and from nuclear generating stations (U.S. EIA, 2023b). In 2022, approximately 42 percent of California's utility-scale net electricity generation was fueled by natural gas. In addition, about 42 percent of the State's utility-scale net electricity generation came from non-hydroelectric renewable technologies, such as solar, wind, geothermal, and biomass. Another 8 percent of the State's utility-scale net electricity generation came from hydroelectric generation, and nuclear energy powered an additional 88 percent. The amount of electricity generated from coal is negligible (U.S. EIA, 2023a). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed by the State's Renewable Portfolio Standard (RPS).

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (U.S. EIA, 2020b). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010.

PG&E is a publicly traded utility company that, under contract with the California Public Utilities Commission (CPUC), generates, purchases, and distributes energy. PG&E's service area covers 70,000 square miles, roughly extending north to south from Eureka to Bakersfield and east to west from the Sierra Nevada to the Pacific Ocean. PG&E's electricity distribution system consists of 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines.

PG&E's, electricity is generated from a combination of traditional sources, such as coal-fired plants, nuclear power plants, and hydroelectric dams, as well as newer sources of energy, such as wind turbines and photovoltaic plants, or "solar farms." "The grid," or bulk electric grid, is a network of high-voltage transmission lines that link power plants to the PG&E system. The distribution system, comprising lower-voltage secondary lines, is at the street and neighborhood level. It consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to individual customers.

In addition to its base plan, PG&E has three plan options, known as Solar Choice options and Green Saver, which give customers the option of purchasing energy from solar resources. The first Solar Choice option provides up to 50 percent of a customer's energy from solar resources, while the other option provides up to 100 percent of a customer's energy from solar resources, and the Green Saver option provides up to 90 percent of a customer's energy from solar resources.

Table 3.7-1 outlines PG&E's power mix in 2021, compared to the power mix for the state. The table identifies the renewable and non-renewable energy sources for PG&E. It should be noted that some GHG free sources are not considered renewable (e.g., nuclear is GHG free but not renewable).

TABLE 3.7-1. PG&E AND THE STATE OF CALIFORNIA POWER MIX IN 2021

ENERGY RESOURCES	PG&E OPTION: BASE	PG&E OPTION: 50% SOLAR CHOICE	PG&E OPTION: 100% SOLAR	PG&E OPTION: GREEN SAVER	CALIFORNIA POWER MIX 2021
Eligible Renewable	47.7%	70.9%	93.9%	89.9%	33.6%
Biomass and waste	4.2%	2.1%	0.0%	0.0%	2.3%
Geothermal	5.2%	2.6%	0.0%	0.0%	4.8%
Small hydroelectric	1.8%	0.9%	0.0%	0.0%	1.0%
Solar	25.7%	59.8%	93.9%	89.9%	14.2%
Wind	10.9%	5.5%	0.0%	0.0%	11.4%

Coal	0.0%	0.0%	0.0%	0.0%	3.0%
Large Hydroelectric	4.0%	2.0%	0.0%	0.0%	9.2%
Natural Gas	8.9%	7.4%	0.0%	0.0%	37.9%
Nuclear	39.3%	19.7%	0.0%	0.0%	9.3%
Other	0.0%	0.0%	0.0%	0.0%	0.2%
Unspecified	0.0%	0.0%	6.1%	10.1%	6.8%

SOURCE: PG&E. 2021. BUILDING A CLEANER, SAFER ENERGY FUTURE. AVAILABLE: HTTPS://WWW.PGE.COM/PGE_GLOBAL/COMMON/PDFS/YOUR-ACCOUNT/YOUR-BILL/UNDERSTAND-YOUR-BILL/BILL-INSERTS/2022/1022-POWER-CONTENT-LABEL.PDF. ACCESSED: AUGUST 16, 2023.

[A.] ELECTRICITY FROM TRANSACTIONS THAT ARE NOT TRACEABLE TO SPECIFIC GENERATION SOURCES ARE CLASSIFIED AS UNSPECIFIED SOURCES OF POWER.

In 2021, electricity consumption in San Joaquin County was approximately 5,608 million kWh. Of that, residential consumption accounted for approximately 2,125.4 million kWh. (California Energy Commission, 2023).

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2016, world consumption of oil had reached 96 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (U.S. EIA, 2023c). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 96 percent of the State's transportation energy needs.

Natural Gas/Propane

The State produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest (California Energy Commission, 2012). In 2006, California produced 325.6 billion cubic feet of natural gas (California Energy Commission, 2012).

PG&E is the largest publicly-traded utility in California and provides natural gas for residential, industrial, and agency consumers within the San Joaquin County area. PG&E's natural gas (i.e., methane) delivery system includes 42,000 miles of natural gas distribution pipelines and 6,700 miles of transmission pipelines. PG&E's gas transmission system serves approximately 15 million energy customers in California. The system is operated under an inspection and monitoring program in real time on a 24-hour basis, with leak inspections, surveys, and patrols continuously taking place along the pipelines. Gas delivered by PG&E originates in gas fields in California, the Southwest, the Rocky Mountains, and Canada. Transmission pipelines send natural gas from the fields and storage facilities. The smaller distribution pipelines deliver gas to individual businesses or residences.

In 2021, natural gas consumption in San Joaquin County was approximately 186 million therms (California Energy Commission, 2023). Residential natural gas consumption accounted for approximately 90.18 million therms.

3.7.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, State attainment plans, motor National Ambient Air Quality Standards (NAAQS) vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

On April 2, 2007, in the court case of *Massachusetts et al. vs. the USEPA et al*. (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act (42 USC Sections 7401-7671q). The Supreme Court held that the Administrator of the United States Environmental Protection Agency must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and CARB, the USEPA developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the National Highway Traffic Safety Administration (NHTSA), was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

The NHTSA sets CAFE standards for passenger cars and for light trucks (collectively, light-duty vehicles), and separately sets fuel consumption standards for medium- and heavy-duty trucks and engines. NHTSA has proposed new fuel economy standards for new passenger cars and light trucks for model years 2024–2026. The standards would increase in stringency by about 8 percent each year, reaching a fleetwide average of 48 miles per gallon (mpg) by 2026. California is the only state allowed to set its own, more stringent air emissions standards for motor vehicles.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, State, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Federal Climate Change Policy

According to the EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

In 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO_2 per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial GHGs along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

The Inflation Reduction Act of 2022

The Inflation Reduction Act was signed into law by President Biden in August 2022. The bill includes specific investment in energy and climate reform and is projected to reduce GHG emissions within the United States by 40% as compared to 2005 levels by 2030. The bill allocates funds to boost renewable energy infrastructure (e.g., solar panels and wind turbines), includes tax credits for the purchase of electric vehicles, and includes measures that will make homes more energy efficient.

STATE

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions all across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as CARB "Scoping Plans" intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

Statutes Setting Statewide GHG Reduction Targets

ASSEMBLY BILL 32 (GLOBAL WARMING SOLUTIONS ACT)

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Health & Safety Code Section 38500 et seq.), also known as Assembly Bill (AB) 32 (Stats. 2006, ch. 488). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction was accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, the California Air Resources Board (CARB) developed and implemented regulations, contained in a "Scoping Plan," to reduce statewide GHG emissions from stationary sources. CARB published the first Scoping Plan in 2008.

SENATE BILL 32

SB 32 (Stats. 2016, ch. 249) added Section 38566 to the Health and Safety Code, updating and building on AB 32. It provides that "[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." In other words, SB 32 requires California, by 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

EXECUTIVE ORDERS S-3-05, B-30-15, AND B-55-18

The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Safety Code Section 38501, subd. (i).) That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In 2015, Governor Brown issued Executive Order, B-30-15, which created a "new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050." SB 32 codified this target.

In 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to "achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter." The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals. As discussed below, the 2022 Scoping Plan lays out a path towards achieving carbon neutrality by 2045.

SB 350

Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) now states that the California Public Utilities Commission (PUC), in consultation with CARB and the California Energy Commission (CEC), must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

AB 1279

In September 2022, the Legislature enacted AB 1279 (Stats. 2022, ch. 337). The bill declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter. Additionally, the bill requires that by 2045, statewide anthropogenic GHG emissions be reduced to at least 85% below 1990 levels.

Statute Setting Target for the Use of Renewable Energy for the Generation of Electricity

CALIFORNIA RENEWABLES PORTFOLIO STANDARD

In 2002, the Legislature enacted Senate Bill 1078 (Stats. 2002, ch. 516), which established the Renewables Portfolio Standard program, requiring retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. (See Pub. Utilities Code, Section 399.11 et seq. [subsequently amended].) The legislation set a target by which 20 percent of the State's electricity would be generated by renewable sources. (Pub. Utility Code, Section 399.11, subd. (a) [subsequently amended].) As described in the Legislative Counsel's Digest, Senate Bill 1078 required "[e]ach electrical corporation … to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources. If an electrical corporation fails to procure sufficient eligible renewable energy resources in a given year to meet an annual target, the electrical corporation would be required to procure additional eligible renewable resources in subsequent years to compensate for the shortfall, if funds are made available as described. An electrical corporation with at least 20 percent of retail sales procured from eligible renewable energy resources in any year would not be required to increase its procurement in the following year."

In 2006, the Legislature enacted Senate Bill 107 (Stats. 2006, ch. 464), which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. (Pub. Utility Code, Section 399.11, subd (a) [subsequently amended].)

Senate Bill X1-2 (Stats. 2011, 1st Ex. Sess., ch. 1) set even more aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the State's electricity come from renewables by 2020. This legislation applies to all electricity retailers in the State, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. (See Pub. Utility Code, Section 399.11 et seq. [subsequently amended].)

SB 350, discussed above, increases the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. (Pub. Utility Code, Section 399.11, subd (a); see also Section 399.30, subd. (c)(2).) Of equal significance, Senate Bill 350 also embodies a policy encouraging a substantial increase in the use of electric vehicles. As noted earlier, Section 740.12(b) of the Public Utilities Code now states that the PUC, in consultation with CARB and the CEC, must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

Executive Order, B-16-12, issued in 2012, embodied a similar vision of a future in which zero-emission vehicles (ZEV) will play a big part in helping the State meet its GHG reduction targets. Executive Order B-16-12 directed State government to accelerate the market for in California through fleet replacement and electric vehicle infrastructure. The Executive Order set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be "ZEV ready";
- By 2020, the State will have established adequate infrastructure to support 1 million ZEVs in California;
- By 2025, there will be 1.5 million ZEVs on the road in California; and
- By 2050, virtually all personal transportation in the State will be based on ZEVs, and GHG emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

In 2018, Senate Bill 100 (Stats. 2018, ch. 312) revised the above-described deadlines and targets so that the State will have to achieve a 50% renewable resources target by December 31, 2026 (instead of by 2030) and achieve a 60% target by December 31, 2030. The legislation also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all State agencies by December 31, 2045.

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

- 90% by December 31, 2035
- 95% by December 31, 2040
- 100% by December 31, 2045

In summary, California has set a statutory goal of requiring that, by the 2030, 60 percent of the electricity generated in California should be from renewable sources, with increased generation capacity intended to sufficiently allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other ZEVs. By 2035, 90 percent of electricity must come from carbon-free sources and by 2045, all electricity must be carbon-free. Former Governor Brown had an even more ambitious goal for the State of achieving carbon neutrality as soon as possible and by no later than 2045. The Legislature is thus looking to California drivers to buy electric cars, powered by green energy, to help the State meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon-intensive. A number of statutes in recent years have addressed that strategy. These are discussed immediately below.

Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

ASSEMBLY BILL 1493, PAVLEY CLEAN CARS STANDARDS

In 2002, the Legislature enacted Assembly Bill 1493 ("Pavley Bill") (Stats. 2002, ch. 200), which directed the CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. (See Health and Safety Code Section 43018.5.) In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the "Pavley standards." In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created are what are commonly known as the "Pavley II standards." (See California Code of Regulations, Title 13, Sections 1900, 1961, and 1961.1 et seq.)

In 2012, CARB adopted an Advanced Clean Cars (ACC) program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This program, developed in coordination with the USEPA and NHTSA, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (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. (See California Code of Regulations, Title 13, Sections 1900, 1961, 1961.1, 1961.2, 1961.3, 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, and 2317 et seq.)

It is expected that the Pavley standards will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

ADVANCED CLEAN CARS II

The Advanced Clean Cars II regulations reduce light-duty passenger car, pickup truck and SUV emissions starting with the 2026 model year through 2035. The regulations are two-pronged. First, it amends the Zero-emission Vehicle Regulation to require an increasing number of zero-emission vehicles, and relies on currently available advanced vehicle technologies, including battery-electric, hydrogen fuel cell electric and plug-in hybrid electric-vehicles, to meet air quality and climate change emissions standards. These amendments support Governor Newsom's 2020 Executive Order N-79-20 that requires all new passenger vehicles sold in California to be zero emissions by 2035. Second, the Low-emission Vehicle Regulations were amended to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions.

ADVANCED CLEAN TRUCKS

On June 25, 2020, the California Air Resources Board (CARB) adopted the Advanced Clean Trucks (ACT) rule, which requires the sale of zero-emission or near zero-emission HDTs starting with the manufacturer-designated model year 2024. Sales requirements are defined separately for three vehicle groups: Class 2b-3 trucks and vans, Class 4-8 rigid trucks, and Class 7-8 tractor trucks. The regulation is structured as a credit and deficit accounting system. In 2023, the EPA granted the state the waiver it needs to enact the ACT rule. The enacted rule requires truck makers to sell an increasing percentage of electric models annually through 2035. Forty percent of big rigs, half of all cargo and travel vans and 75 percent of box truck and dump truck sales need to be zero emissions by 2035.

ASSEMBLY BILL 2127

AB 2127 (2018) requires the California Energy Commission to biennially assess the electric vehicle charging infrastructure needed to meet the state's goals of putting at least 5 million zero-emission vehicles on California roads by 2030 and reducing greenhouse gas emissions to 40% below 1990 levels by 2030.

ASSEMBLY BILL 2514

AB 2514 (Chapter 469, Statutes of 2010), amended by Assembly Bill 2227 (Chapter 606, Statutes of 2012), was designed to encourage California to incorporate energy storage into the electricity grid, as codified at Public Utilities Code sections 2835-2839 and section 9506. Energy storage can provide a multitude of benefits to California, including supporting the integration of greater amounts of renewable energy into the electric grid, deferring the need for new fossil-fueled power plants and transmission and distribution infrastructure, and reducing dependence on fossil fuel generation to meet peak loads.

Cap and Trade Program

In 2011, CARB adopted the final Cap-and-Trade Program for California (See California Code of Regulations, Title 17, Sections 95801-96022.) The California cap-and-trade program creates a market-based system with an overall emissions limit for affected sectors. The program is intended to regulate more than 85 percent of California's emissions and staggers compliance requirements according to the following schedule: (1) electricity generation and large industrial sources (2012); (2) fuel combustion and transportation (2015).

According to 2012 CARB guidance, "[t]he Cap-and-Trade Program will reduce GHG emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while employing market mechanisms to cost-effectively achieve the emission-reduction goals. The statewide cap for GHG emissions from major sources, which is measured in metric tons of carbon dioxide equivalent (MTCO2e), will commence in 2013 and decline over time, achieving GHG emission reductions throughout the program's duration. Each covered entity will be required to surrender one permit to emit (the majority of which will be allowances, entities are also allowed to use a limited number of CARB offset credits) for each ton of GHG emissions they emit. Some covered entities will be allocated some allowances and will be able to buy additional allowances at auction, purchase allowances from others, or purchase offset credits."

The guidance goes on to say that "[s]tarting in 2012, major GHG-emitting sources, such as electricity generation (including imports), and large stationary sources (e.g., refineries, cement production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants) that emit more than 25,000 $MTCO_2e$ per year will have to comply with the Cap-and-Trade Program. The program expands in 2015 to include fuel distributors (natural gas and propane fuel providers and transportation fuel providers) to address emissions from transportation fuels, and from combustion of other fossil fuels not directly covered at large sources in the program's initial phase." In early April 2017, the Third District Court of Appeal upheld the lawfulness of the Cap-and-Trade program as a "fee" rather than a "tax." (See *California Chamber of Commerce et al. v. State Air Resources Board et al.* (2017) 10 Cal.App.5th 604.)

AB 398 (Stats. 2017, ch. 135) extended the life of the existing Cap and Trade Program through December 2030.

Statute Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

CALIFORNIA SENATE BILL 375 (SUSTAINABLE COMMUNITIES STRATEGY)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for 2020 and 2035. Each of California's metropolitan planning organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed which demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

Climate Change Scoping Plans

AB 32 SCOPING PLAN

In 2008, CARB adopted the Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT) CO_2e, or approximately 22 percent from the State's projected 2020 emission level of 545 MMT of CO_2e under a business-as-usual scenario This is a reduction of 47 MMT CO_2e, or almost 10 percent, from 2008 emissions. CARB's original 2020 projection was 596 MMT CO_2e, but this revised 2020 projection takes into account the economic downturn that occurred in 2008. The Scoping Plan also includes CARB recommended GHG reductions for each emissions sector of the State GHG inventory. CARB estimates the largest reductions in GHG emissions would be by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (26.1 MMT CO_2e);
- the Low Carbon Fuel Standard (15.0 MMT CO_2e);
- energy efficiency measures in buildings and appliances (11.9 MMT CO_2e); and
- renewable portfolio and electricity standards for electricity production (23.4 MMT CO_2e).

In 2011, CARB adopted a Cap-and-Trade regulation. The Cap-and-Trade program covers major sources of GHG emissions in the State such as refineries, power plants, industrial facilities, and transportation fuels. The Cap-and-Trade program includes an enforceable emissions cap that will decline over time. The State distributes allowances, which are tradable permits, equal to the emissions allowed under the cap. Sources under the cap are required to surrender allowances and offsets equal to their emissions at the end of each compliance period. Enforceable compliance obligations started in 2013. The program applies to facilities that comprise 85 percent of the State's GHG emissions.

With regard to land use planning, the Scoping Plan expects that reductions of approximately 3.0 MMT CO_2e will be achieved through implementation of Senate Bill (SB) 375, which is discussed further below.

2014 Scoping Plan Update

CARB revised and reapproved the Scoping Plan and prepared the First Update to the 2008 Scoping Plan in 2014 (2014 Scoping Plan). The 2014 Scoping Plan contains the main strategies California will implement to achieve a reduction of 80 MMT of CO_2e emissions, or approximately 16 percent, from the State's projected 2020 emission level of 507 MMT of CO_2e under the business-as-usual scenario defined in the 2014 Scoping Plan. The 2014 Scoping Plan also includes a breakdown of the amount of GHG reductions CARB recommends for each emissions sector of the State's GHG inventory. Several strategies to reduce GHG emissions are included: the Low Carbon Fuel Standard, the Pavley Rule, the ACC program, the Renewable Portfolio Standard, and the Sustainable Communities Strategy.

2017 SB 32 Scoping Plan

With the passage of SB 32, the Legislature also passed companion legislation AB 197, which provides additional direction for developing the scoping plan. In response, CARB adopted an updated Scoping Plan in December 2017. The document reflects the 2030 target of reducing statewide GHG emissions by 40 percent below 1990 levels codified by SB 32. The GHG reduction strategies in the plan that CARB will implement to meet the target include:

- SB 350 – achieve 50 percent Renewables Portfolio Standard (RPS) by 2030 and doubling of energy efficiency savings by 2030;
- Low Carbon Fuel Standard – increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020);
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario) – maintaining existing GHG standards for light- and heavy-duty vehicles, put 4.2 million zero-emission vehicles on the roads, and increase zero-emission buses, delivery and other trucks;
- Sustainable Freight Action Plan – improve freight system efficiency, maximize use of near-zero emission vehicles and equipment powered by renewable energy, and deploy over 100,000 zero-emission trucks and equipment by 2030;
- Short-Lived Climate Pollutant Reduction Strategy – reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and reduce emissions of black carbon 50 percent below 2013 levels by 2030;
- SB 375 Sustainable Communities Strategies – increased stringency of 2035 targets;
- Post-2020 Cap-and-Trade Program – declining caps, continued linkage with Québec, and linkage to Ontario, Canada;
- 20 percent reduction in GHG emissions from the refinery sector; and
- By 2018, develop an Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

2022 SB 32 SCOPING PLAN

On December 15, 2022, CARB approved the *Final 2022 Scoping Plan for Achieving Carbon Neutrality*, which outlines the state's plan to reach carbon neutrality by 2045 or earlier, while also assessing the progress the state is making toward reducing GHG emissions by at least 40% below 1990 levels by 2030, as is required by SB 32 and laid out in the Second Update. The carbon neutrality goal requires CARB to expand proposed actions from only the reduction of anthropogenic sources of GHG emissions to also include those that capture and store carbon (e.g., through natural and working lands, or mechanical technologies). The carbon reduction programs build on and accelerate those currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen[1] (CARB 2022b).

The *2022 Scoping Plan* also emphasizes that there is no realistic path to carbon neutrality without carbon removal and sequestration, and to achieve the state's carbon neutrality goal, carbon reduction programs must be supplemented by strategies to remove and sequester carbon. Strategies for carbon removal and sequestration include carbon capture and storage (CCS) from anthropogenic point sources, where CO_2 is captured as it leaves a facility's smokestack and is injected into geologic formations or used in industrial materials (e.g., concrete); and carbon dioxide removal (CDR) from ambient air, through mechanical (e.g., direct air capture with sequestration [DACS]) or nature-based (e.g., management of natural and working lands) applications.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and Executive Orders S-3-05 and B-30-15, by which Governors Schwarzenegger and Brown identified long-term GHG reduction goals for the State of California (80 percent below 1990 levels by 2050 and "carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter"). The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions.

The 2022 Scoping Plan details "Local Actions" in Appendix D. The Local Actions includes recommendations intended to build momentum for local government actions that align with the State's climate goals, with a focus on local GHG reduction strategies (commonly referred to as climate action planning) and approval of new land use development projects, including through environmental review under CEQA. The recommendations provided in Appendix D are non-binding and should not be interpreted as a directive to local governments, but rather as evidence-based analytical tools to assist local governments with their role as essential partners in achieving California's climate goals. Appendix D recognizes consistency with a CEQA-qualified GHG reduction

[1]Green hydrogen refers to hydrogen that is generated by renewable energy or from low-carbon power, and has significantly lower associated carbon emissions than grey hydrogen, which is produced using natural gas and makes up the majority of hydrogen production. For the purposes of the *2022 Scoping Plan*, the term "green hydrogen" is not limited to only electrolytic hydrogen produced from renewables.

plan such as a Climate Action Plan as a preferred option for evaluating potential GHG emission impacts under CEQA. Absent a qualified GHG reduction plan, Appendix D provides recommendations for key attributes that residential and mixed-use projects should achieve that would align with the state's climate goals including EV charging infrastructure, infill location, no loss or conversion of natural and working lands, transit-supportive densities or proximity to transit stops, reducing parking requirements, provision of affordable housing (20% of units), and all-electric appliances with no natural gas connection (CARB, 2022). Projects that achieve all key attributes are considered clearly consistent with the state's climate and housing goals and would have a less-than-significant GHG impact under CEQA (CARB, 2022). However, projects that do not achieve all attributes are not considered to result in a potentially significant GHG emission impact.

SB 605 AND SB 1383

SB 605 (2014) required CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state, and SB 1383 (2016) required CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of short-lived climate pollutants (40% below 2013 levels by 2030 for methane and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy (Reduction Strategy) in March 2017. The Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, methane, and fluorinated gases.

ASSEMBLY BILL 1757

AB 1757 (September 2022) requires the CNRA to determine a range of targets for natural carbon sequestration, and for nature-based climate solutions that reduce GHG emissions for future years 2030, 2038, and 2045. These targets are to be determined by no later than January 1, 2024, and are established to support the state's goals to achieve carbon neutrality and foster climate adaptation and resilience.

Building Code Requirements Intended to Reduce GHG Emissions

CALIFORNIA ENERGY CODE

The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current Building Energy Efficiency Standards, commonly referred to as the "Title 24" standards, include changes from the previous standards that were adopted, to do the following:

- Provide California with an adequate, reasonably priced, and environmentally sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the California Energy Commission's Integrated Energy Policy Report, which finds that standards are the most cost effective means to achieve energy efficiency, states an expectation that the Building Energy Efficiency Standards will continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Building Energy Efficiency Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of State building codes.
- Meet Executive Order S-20-04, the Green Building Initiative, to improve the energy efficiency of non-residential buildings through aggressive standards.

The most recent Title 24 standards are the 2022 Title 24 standards. Buildings permitted on or after January 1, 2023, must comply with the 2022 Standards. The California Energy Commission updates the standards every three years. The CEC estimates that the 2022 Title 24 standards will reduce 10 million metric tons of GHG over 30 years. When compared to the 2019 Title 24 standards, the 2022 update focuses on: encouraging electric heat pump technology and use; establishing electric-ready requirements when natural gas is installed; expanding solar photovoltaic (PV) system and battery storage standards; and strengthening ventilation standards to improve indoor air quality.

CALIFORNIA GREEN BUILDING STANDARDS CODE

The purpose of the California Green Building Standards Code (California Code of Regulations Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or 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 quality. The original California Green Building Standards, which became effective on January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and State-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- **Tier I:** 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.
- **Tier II:** 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

TITLE 20

CCR Title 20 requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SENATE BILL 1

SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for homes and businesses within 10 years of adoption and placing solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

SOLID WASTE

AB 939, AB 341, and AB 1826. In 1989, AB 939, known as the Integrated Waste Management Act (PRC Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by 2000.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops and in August 2015, published a discussion document titled AB 341 Report to the Legislature, which identified five priority strategies that CalRecycle believed would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations, and an evaluation of program effectiveness (CalRecycle, 2012).

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

REGIONAL

PG&E Integrated Resource Plan PG&E adopted the 2020 Integrated Resource Plan (IRP) on September 1, 2020, to provide guidance for serving the electricity and natural gas needs of residents and businesses within its service area while fulfilling regulatory requirements. The IRP contains the following objectives that are relevant to the Project:

- Clean Energy: In 2021, PG&E delivered nearly 50 percent of its electricity from RPS-eligible renewable resources, such as solar, wind, geothermal, biomass, and small hydropower. In addition, PG&E's GHG-free energy production, which encompasses renewable resources, large hydropower, and nuclear, satisfied all of PG&E's bundled retail sales in 2021.

- Reliability: PG&E's IRP analysis includes PG&E's contribution to system and local reliability, in compliance with the CPUC's resource adequacy requirements, especially as California transitions toward higher shares of GHG-free generation resources.

- Affordability: PG&E's IRP analysis selects resources to meet the state's clean energy and reliability goals and provides a system average rate forecast in compliance with the CPUC' s requirements for investor-owned utilities.

LOCAL

City of Manteca General Plan

The City of Manteca General Plan includes several policies that are relevant to air quality. It is noted that the currently adopted General Plan is the 2023 General Plan; however, the City is currently undergoing an Update to the General Plan. Both the 2023 General Plan policies and the proposed General Plan Update policies applicable to the Project are identified below:

2023 GENERAL PLAN (EXISTING)

Policies: Air Quality- Regional Coordination

- AQ-P-1: Cooperate with other agencies to develop a consistent and coordinated approach to reduction of air pollution and management of hazardous air pollutants.

Implementation: Air Quality- Regional Coordination

- AQ-I-1. Work with the San Joaquin Valley Air Pollution Control District (APCD) to implement the Air Quality Management Plan (AQMP).
    - Cooperate with the APCD to develop consistent and accurate procedures for evaluating project-specific and cumulative air quality impacts.
    - Cooperate with the APCD and the California Air Resources Board in their efforts to develop a local airshed model.
    - Cooperate with the APCD in their efforts to develop a cost/benefit analysis of possible control strategies (mitigation measures to minimize short and long-term stationary and area source emissions as part of the development review process, and monitoring measures to ensure that mitigation measures are implemented.
- AQ-I-2. In accordance with CEQA, submit development proposals to the APCD for review and comment prior to decision.
- AQ-I-3. Cooperate with the San Joaquin County Environmental Health Department in identifying hazardous material users and in developing a hazardous materials management plan.

Policies: Air Quality- Land Use

- AQ-P-2: Develop a land use plan that will help to reduce the need for trips and will facilitate the common use of public transportation, walking, bicycles, and alternative fuel vehicles.
- AQ-P-3: Segregate and provide buffers between land uses that typically generate hazardous or obnoxious fumes and residential or other sensitive land uses.

Implementation: Air Quality- Land Use

- AQ-I-4. Encourage mixed-use development that is conveniently accessible by pedestrians and public transit.
- AQ-I-5. Locate employment, school, and daily shopping destinations near residential areas.
- AQ-I-6. Locate higher intensity development such as multi-family housing, institutional uses, services, employment centers and retail along existing and proposed transit corridors.

- AQ-I-7. Locate public facilities in areas easily served by current and planned public transportation.
- AQ-I-8. Prior to entitlement of a project that may be an air pollution point source, such as a manufacturing and extracting facility, the developer shall provide documentation that the use is located and appropriately separated from residential areas and sensitive receptors (e.g., homes, schools, and hospitals).

Policies: Air Quality- Transportation

- AQ-P-4: Develop and maintain street systems that provide for efficient traffic flow and thereby minimize air pollution from automobile emissions.
- AQ-P-5: Develop and maintain circulation systems that provide alternatives to the automobile for transportation, including bicycles routes, pedestrian paths, bus transit, and carpooling.
- AQ-P-6: Coordinate public transportation networks, including trains, local bus service, regional bus service and rideshare facilities to provide efficient public transit service.

Implementation: Air Quality- Transportation

- AQ-I-9. Maintain acceptable traffic levels of service (LOS) as specified in the Circulation Element.
- AQ-I-10. In new subdivisions, require the internal street system to include the installation of dedicated pedestrian/bicycle pathways connecting to adjacent residential and commercial areas as well as schools, parks and recreational areas.
- AQ-I-11. Provide adequate pedestrian and bikeway facilities for present and future transportation needs throughout the City.

Policies: Air Quality- Dust and Other Airborne Particulate Materials

- AQ-P-7: New construction will be managed to minimize fugitive dust and construction vehicle emissions.
- AQ-P-8: Woodburning devices shall meet current standards for controlling particulate air pollution.
- AQ-P-9: Burning of any combustible material within the City will be controlled to minimize particulate air pollution.

Implementation: Air Quality- Dust and Other Airborne Particulate Materials

- AQ-I-12. Construction activity plans shall include and/or provide for a dust management plan to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard.
    - Project development applicants shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction.
- AQ-I-13. All residences built in a new subdivision or housing development shall be equipped with conventional heating devices with sufficient capacity to heat all areas of the building without reliance on woodburning heating devices.

- AQ-I-14. All woodburning-heating devices installed shall meet EPA standards applicable at the time of project approval.

Policies: Air Quality- Reduce Emissions From Energy Generating Facilities

- AQ-P-10: Encourage energy efficient building designs.

Implementation: Air Quality- Reduce Emissions From Energy Generating Facilities

- AQ-I-15. Design review criteria shall include the following considerations, at a minimum:
  - The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from highways, arterial streets, hazardous material locations and other sources of air pollution or odor.
  - Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible.
  - The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.)
  - The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable.
  - Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds.

Policies: Air Quality – Greenhouse Gas Emissions

- AQ-P-11: Prepare and maintain a Climate Action Plan and community greenhouse gas emission inventory for sectors with the potential for control or influence by the City that demonstrates consistency with State of California targets.
- AQ-P-12: Development projects shall incorporate the applicable strategies of the City of Manteca Climate Action Plan as needed to demonstrate consistency with CAP reduction targets and AB 32.

Implementation: Air Quality – Greenhouse Gases

- AQ-I-16. Track and monitor aspects of development related to CAP strategies on an ongoing basis to measure progress in achieving CAP reduction targets.
- AQ-I-17. Track implementation of municipal and community projects and programs related to energy efficiency, transit service improvements, transportation facilities such as bicycle paths and lanes, pedestrian infrastructure, and other projects that reduce greenhouse gas emissions throughout the community.
- AQ-I-18. Update CAP emission inventories, targets, and strategies to reflect new State of California greenhouse gas reduction targets when adopted for later years and to reflect the benefits of any new State and federal regulatory actions that reduce greenhouse gas emissions to demonstrate continued consistency with State targets.

GENERAL PLAN UPDATE (PROPOSED)

Policies: Land Use Element

- LU-3.9: Locate residences away from areas of excessive noise, smoke, dust, odor, and lighting, and ensure that adequate provisions, including buffers or transitional uses, such as less intensive renewable energy production, light industrial, office, or commercial uses, separate the proposed residential uses from more intensive uses, including industrial, agricultural, or agricultural industrial uses and designated truck routes, to ensure the health and well-being of existing and future residents.
- LU-6.9: Require mixed-use development to provide strong connections with the surrounding development and neighborhoods through the provision of pedestrian and bicycle facilities and, where feasible, site consolidation.
- LU-6.10: Encourage the reuse of existing buildings within Downtown and in other developed locations designated for mixed-use development by utilizing the California Existing Building Code which provides flexibility in the retrofitting of buildings.
- LU-6.11: Promote the revitalization of underutilized, deteriorated areas and buildings within Downtown and in other developed locations designated for mixed-use development through development incentives, public/private partnerships, and public investments.
- LU-9.1: Require future planning decisions, development, and infrastructure and public projects to consider the effects of planning decisions on the overall health and well-being of the community and its residents, with specific consideration provided regarding addressing impacts to disadvantaged populations and communities and ensuring disadvantaged communities have equitable access to services and amenities.
- LU-9.2: As part of land use decisions, ensure that environmental justice issues related to potential adverse health impacts associated with land use decisions, including methods to reduce exposure to hazardous materials, industrial activity, vehicle exhaust, other sources of pollution, and excessive noise on residents regardless of age, culture, gender, race, socioeconomic status, or geographic location, are considered and addressed.

Implementation: Land Use Element

- LU-1b: Regularly review and revise, as necessary, the Zoning Code to accomplish the following purposes:
    - Ensure consistency with the General Plan in terms of zoning districts and development standards;
    - Provide for a Downtown zone that permits the vibrant mixing of residential, commercial, office, business-professional, and institutional uses within the Central Business District;
    - Ensure adequate buffers and transitions are required between intensive uses, such as industrial and agricultural industrial, and sensitive receptors, including residential uses and schools; and
    - Provide for an Agricultural Industrial zone that accommodates the processing of crops and livestock.
    - Ensure that land use requirements meet actual demand and needs over time as technology, social expectations, and business practices change.

- LU-6a: Consider implementing incentives to support developers who construct vertical mixed-use projects and/or who build housing above non-residential ground-floor uses within Downtown.

- LU-6d: Promote the intensified use and reuse of existing suites above ground floors.

- LU-9a: Review all development proposals, planning projects, and infrastructure projects to ensure that potential adverse impacts to disadvantaged communities, such as exposure to pollutants, including toxic air contaminants, and unacceptable levels of noise and vibration are reduced to the extent feasible and that measures to improve quality of life, such as connections to bicycle and pedestrian paths, community services, schools, and recreation facilities, access to healthy foods, and improvement of air quality are included in the project. The review shall address both the construction and operation phases of the project.

- LU-9c: Encourage and support local transit service providers to increase and expand services for people who are transit-dependent, including seniors, persons with mobility disabilities, and persons without regular access to automobiles by improving connections to regional medical facilities, senior centers, and other support systems that serve residents and businesses.

Policies: Circulation Element

- C-2.7: Provide access for bicycles and pedestrians at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.

- C-2.8: Signals, roundabouts, traffic circles and other traffic management techniques shall be applied appropriately at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel conveniently and safely from one neighborhood to another.

- C-2.15: Ensure that development and infrastructure projects are designed in a way that provides pedestrian and bicycle connectivity to adjacent neighborhoods and areas (such as ensuring that sound walls, berms, and similar physical barriers are considered and gaps or other measures are provided to ensure connectivity).

- C-4.1: Through regular updates to the City’s Active Transportation Plan, establish a safe and convenient network of identified bicycle and pedestrian routes connecting residential areas with schools, recreation, shopping, and employment areas within the city, generally as shown in Figure CI-2). The City shall also strive to develop connections with existing and planned regional routes shown in the San Joaquin County Bicycle Master Plan.

- C-4.2: Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing shade trees and controlling traffic speeds by implementing narrow lanes or other traffic calming measures in accordance with the City Neighborhood Traffic Calming Program on appropriate streets, in particular residential and downtown areas.

- C-4.3: Provide a sidewalk and bicycle route system that serves all pedestrian and bicycle users and meets the latest guidelines related to the Americans with Disabilities Act (ADA).

- C-4.4: Provide bicycle parking facilities at commercial, business/professional and light industrial uses in accordance with Part 11 of the California Building Standards Code.

- C-4.5: Expand the existing network of off-street bicycle facilities as shown in the City's Active Transportation Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop: 1) a "city-loop" Class I bike path for use by both bicyclists and pedestrians that links Austin Road, Atherton Drive, Airport Way, and a route along or near Lathrop Road to the Tidewater bike path and its existing and planned extensions, and 2) an off-street bicycle trail extension between the Tidewater Bike Trail near the intersection of Moffat Boulevard and Industrial Park Drive to the proposed regional route between Manteca and Ripon.
- C.4-6: Provide on-street Class II bike lanes, Class IV protected bike lanes, or off-street Class I bike paths along major collector and arterial streets whenever feasible.
- C.4.7: Facilitate bicycle travel through residential streets through signage necessary to communicate the presence of Class III bicycle lanes on residential streets that have sufficiently low volumes as to not require bike lanes or have narrower street cross sections that assist in calming traffic.
- C.4.8: Provide sidewalks and/or walkways connecting to the residential neighborhoods, primary public destinations, major public parking areas, transit stops, and intersections with the bikeway system.
- C.4.9: Provide sidewalks along both sides of all new streets in the City.
- C-5.1: Encourage and plan for the expansion of regional bus service in the Manteca area.
- C-5.2: Promote increased commuter and regional passenger rail service that will benefit the businesses and residents of Manteca. Examples include Amtrak, the Altamont Commuter Express (ACE), and high-speed rail.
- C-5.3: Identify and implement means of enhancing the opportunities for residents to commute from residential neighborhoods to the ACE station or other transit facilities that may develop in the City.
- C-5.4: Include primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas in the Active Transportation Plan (see C-4a).
- C-5.5: Encourage programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents.
- C-5.6: Promote the development of park-and-ride facilities near I-5, SR 120, SR 99, and transit stations.
- C-5.7: Maintain a working relationship between the City administration and the local management of the Union Pacific Railroad regarding expansion of freight and passenger rail service and economic development of the region.
- C-5.8: Design future roadways to accommodate transit facilities, as appropriate. These

design elements should include installation of transit stops adjacent to intersections and provision of bus turnouts and sheltered stops, where feasible.

- C-5.9: Encourage land uses and site developments that promote public transit along fixed route public transportation corridors, with priority given to those projects that will bring the greatest increase in transit ridership.
- C-5.10: Ensure that development projects provide adequate facilities to accommodate school buses, including loading and turn-out locations in multifamily and other projects that include medium and high density residential uses, and that the school districts are provided an opportunity to address specific needs associated with school busing.
- C-5.11: As new areas and neighborhoods of the City are developed, fund transit expansion (including capital, operations, and maintenance) to provide service levels consistent with existing development.
- C-7.1: Encourage employers to provide alternative mode subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting, and work-at-home programs employee education and preferential parking for carpools/vanpools.
- C-7.2: Require development projects that accommodate or employee 50 or more full-time equivalent employees to establish a transportation demand management (TDM) program.
- C-7.3: Partner with SJCOG on the Dibs program, which is the regional smart travel program, including rideshare, transit, walking, and biking, operated by SJCOG.
- C-7.4: Require proposed development projects that could have a potentially significant VMT impact to consider reasonable and feasible project modifications and other measures during the project design and environmental review stage of project development that would reduce VMT effects in a manner consistent with state guidance on VMT reduction.
- C-7.5: Evaluate the feasibility of a local or regional VMT impact fee program, bank, or exchange. Such an offset program, if determined feasible, would be administered by the City or a City-approved agency, and would offer demonstrated VMT reduction strategies through transportation demand management programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, or other land use project conditions that reduce VMT in a manner consistent with state guidance on VMT reduction. If, through on-site changes, a subject project cannot eliminate VMT impacts, the project could contribute on a pro-rata basis to a local or regional VMT reduction bank or exchange, as necessary, to reduce net VMT impacts.
- C-7.6: Expand alternatives to driving by increasing opportunities to walk, bike, and use transit.

Implementation: Circulation Element

- C-1c: Develop a pedestrian, bicycle, and transit improvement plan for the Downtown area to facilitate implementation of level of service policy C-1.4. This plan will develop a list of multi-modal improvements in the Downtown area to increase the viability and encourage the use of non-auto modes.

- C-2b: When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path instead of bike lanes along a major arterial. Pedestrian districts like Downtown Manteca or areas near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

- C-2f: Ensure that bicycle and pedestrian access is provided through walls and berms to minimize travel distances and increase the viability walking and bicycling.

- C-2i: Pursue funding to improve and address areas of traffic, bicycle, and pedestrian hazards and conflicts with vehicular traffic movements.

- C-4a: Periodically update the Active Transportation Plan to include all areas envisioned for development by this General Plan and to address pedestrian and bicycle facilities needed to provide a complete circulation system that adequately meets the needs of pedestrians and bicyclists.

- C.4b: Utilize the standards set forth in the latest editions of the California MUTCD and American Association of State Highway and Transportation Officials (AASHTO) Green Book for improvement and re-striping of appropriate major collector and arterial streets to accommodate Class II bike lanes or Class IV protected bikeways in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

- C.4d: Add bicycle facilities whenever possible in conjunction with road rehabilitation, reconstruction, or re-striping projects.

- C-4e: Update the City's standard plans to accommodate pedestrians and bicyclists, including landscape-separated sidewalks where appropriate, and to include bike lanes on collector and arterial streets, as defined by the Active Transportation Plan.

- C-4f: Encourage and facilitate resident and visitor use of the bike trail system by preparing a map of the pedestrian and bike paths and implementing wayfinding signage.

- C-4g: Update the standard plans to specify a set of roadways with narrower lanes (less than 12 feet) and pedestrian bulb-outs to calm traffic and increase pedestrian and bicycle comfort. These narrow lane standards shall be applied to appropriate streets (e.g., they shall not be applied to outside lanes on major truck routes) and new development.

- C-5a: Periodically review transit needs in the city and adjust bus routes to accommodate changing land use and transit demand patterns. The City shall also periodically coordinate with the San Joaquin Regional Transit District to assess the demand for regional transit services.

- C-5b: Explore a transit connections study that would identify improvements to connections and access to the existing ACE station, the Manteca Transit Center, and future planned transit stations.

- C-5c: Update the City's standard plans to include the option for bus turnouts at intersections of major streets.
- C-5d: Review and consider alternatives to conventional bus systems, such as smaller shuttle buses (i.e. micro-transit), on-demand transit services, or transportation networking company services that connect neighborhood centers to local activity centers with greater cost efficiency.
- C-5e: Work with the school districts to identify and implement opportunities for joint-use public transit that would provide both student transportation and local transit service.
- C-5f: Through the development review process, ensure that projects provide increased land use densities and mixed uses, consistent with the Land Use Element to enhance the feasibility of transit and promote alternative transportation modes.
- C-5g: Along fixed route corridors, require that new development to be compatible with and further the achievement of the Circulation Element. Requirements for compatibility may include but are not limited to:
  - Orienting pedestrian access to transit centers and existing and planned transit routes.
  - Orienting buildings, walkways, and other features to provide pedestrian access from the street and locating parking to the side or behind the development, rather than separating the development from the street and pedestrian with parking.
  - Providing clearly delineated routes through parking lots to safely accommodate pedestrian and bicycle circulation.
- C-5h: Review and update the City's funding programs to provide for adequate transit services, including funding for capital, operations, and maintenance, commensurate with growth of the City.
- C-7a: Provide information about transit services, ridesharing, vanpools, and other transportation alternatives to single occupancy vehicles at City Hall, the library, and on the City website.
- C-7b: Develop TDM program requirements with consideration of addressing CEQA vehicle miles traveled impact analysis requirements (i.e., SB 743) in accordance with implementation measure C-1c. TDM programs shall include measures to reduce total vehicle miles traveled and peak hour vehicle trips. A simplified version of the Air District's Rule 9410 could be used to implement this measure.
- C-7c: Coordinate with the San Joaquin Council of Governments on a Congestion/Mobility Management Program to identify TDM strategies to reduce VMT and mitigate peak-hour congestion impacts. Strategies may include: growth management and activity center strategies, telecommuting, increasing transit service frequency and speed, transit information systems, subsidized and discount transit programs, alternative work hours, carpooling, vanpooling, guaranteed ride home program, parking management, addition of general purpose lanes, channelization, computerized signal systems, intersection or midblock widenings, and Intelligent Transportation Systems.

- C-7d: Proposed development projects shall consider the list of potential measures below. This list is not intended to be exhaustive, and not all measures may be feasible, reasonable, or applicable to all projects. The purpose of this list is to identify options for future development proposals, not to constrain projects to this list, or to require that a project examine or include all measures from this list. Potential measures, with possible ranges of VMT reduction for a project, include:*
  - *Increase density of development (up to 10.75 percent)*
  - *Increase diversity of land uses (up to 12 percent)*
  - *Encourage telecommuting and alternative work schedules (up to 4.5 percent)*
  - *Implement car-sharing programs (up to 5 percent)*
  - *Implement parking management and pricing (up to 6 percent)*
  - *Implement subsidized or discounted transit program (up to 0.7 percent)*
  - *Implement commute trip reduction marketing and launch targeted behavioral interventions (up to 3 percent)*

  **Note: VMT reduction ranges based on Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association (2010) and new research compiled by Fehr & Peers (2020). Additional engineering analysis is required prior to applying reductions to specific projects. Actual reductions will vary by project and project context.*

- C-7e: Partner with SJCOG, San Joaquin County, and neighboring cities to evaluate a potential regional VMT impact fee program, bank, or exchange.

- C-7f: Implement the Active Transportation Plan and other Bikeway and Pedestrian Systems goals and polices (C-4).

- C-7g: Expand transit service and increase transit frequency and implement Public Transit goals and policies (C-5).

Policies: Community Facilities and Services Element

- CF-11.2: Implement and enforce the provisions of the City's Source Reduction and Recycling Program and update the program as necessary to meet or exceed the State waste diversion requirements.

- CF-11.3: Reduce municipal waste generation by increasing recycling, on-site composting, and mulching, where feasible, at municipal facilities, as well as using resource efficient landscaping techniques in new or renovated medians and parks.

- CF-11.4: Encourage residential, commercial, and industrial recycling and reuse programs and techniques.

- CF-11.5: Coordinate with and support other local agencies and jurisdictions in the region to develop and implement effective waste management strategies and waste-to-energy technologies.

Policies: Resource Conservation Element

- RC-4.1: Prepare for and respond to the expected impacts of climate change.

- RC-4.2: Assess and monitor the effects of climate change and the associated levels of risk in order to adapt to changing climate conditions and be resilient to negative changes and impacts associated with climate change.

- RC-5.1: Ensure that land use and circulation improvements are coordinated to reduce the number and length of vehicle trips.
- RC-5.2: Encourage private development to explore and apply non-traditional energy sources such as co-generation, wind, and solar to reduce dependence on traditional energy sources.
- RC-5.3: Require all new public and privately constructed buildings to meet and comply with construction and design standards that promote energy conservation, including the most current "green" development standards in the California Green Building Standards Code.
- RC-5.4: Support innovative and green building best practices including, but not limited to, LEED certification for all new development, and encourage public and private projects to exceed the most current "green" development standards in the California Green Building Standards Code.
- RC-5.5: Encourage the conservation of public utilities.
- RC-5.6: Encourage the conservation of petroleum products.
- RC-6.1: Coordinate with the San Joaquin Valley Air Pollution Control District (Air District), San Joaquin Council of Governments, and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with the Air District, SJCOG, and State Air Board in:
    - Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.
    - Identifying baseline air pollutant and greenhouse gas emissions.
    - Encouraging economy clean fuel for city vehicle fleets, when feasible.
    - Developing consistent procedures for evaluating and mitigating project-specific and cumulative air quality impacts of projects.
- RC-6.2: Minimize exposure of the public to toxic or harmful air emissions and odors through requiring an adequate buffer or distance between residential and other sensitive land uses and land uses that typically generate air pollutants, toxic air contaminants, or obnoxious fumes or odors, including but not limited to industrial, manufacturing, and processing facilities, highways, and rail lines.
- RC-6.3: Ensure that new construction is managed to minimize fugitive dust and construction vehicle emissions.
- RC-6.4: Require appliances and equipment, including wood-burning devices, in

development projects to meet current standards for controlling air pollution, including particulate matter and toxic air contaminants.

- RC-6.5: Require and/or cooperate with the Air District to ensure that burning of any combustible material within the City is consistent with Air District regulations to minimize particulate air pollution.

Implementation: Resource Conservation Element

- RC-4a: Continue to assess and monitor performance of greenhouse gas emissions reduction efforts, including progress toward meeting longer-term GHG emissions reduction goals for 2035 and 2050 by reporting on the City's progress annually, updating the Climate Action Plan and GHG inventory regularly to demonstrate consistency with State-adopted GHG reduction targets, including those targets established beyond 2020, and updating the GHG Strategy in the General Plan, as appropriate.

- RC-4b: When updating master plans for infrastructure, including water supply, flood control, and drainage, and critical facilities, review relevant climate change scenarios and ensure that the plans consider the potential effects of climate change and include measures to provide resilience.

- RC-4c: Incorporate the likelihood of climate change impacts into City emergency response planning and training.

- RC-5a: Implement development standards and best practices that promote energy conservation and the reduction in greenhouse gases, including:

    - Require new development to be energy-efficient through passive design concepts (e.g., techniques for heating and cooling, building siting orientation, street and lot layout, landscape placement, and protection of solar access;

    - Require construction standards which promote energy conservation including window placement, building eaves, and roof overhangs;

    - Require all projects to meet minimum State and local energy conservation standards;

    - Require best practices in selecting construction methods, building materials, project appliances and equipment, and project design;

    - Encourage and accommodate projects that incorporate alternative energy;

    - Encourage projects to incorporate enhanced energy conservation measures and other voluntary methods of reducing energy usage and greenhouse gas emissions; and

    - Require large energy users to implement an energy conservation plan as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.

- RC-5b: Continue to review development projects to ensure that all new public and private development complies with the California Code of Regulations, Title 24 standards as well as the energy efficiency standards established by the General Plan and the Municipal Code.

- RC-5c: Develop a public education program to increase public participation in energy conservation.

- RC-5d: Connect residents and businesses with programs that provide free or low-cost energy efficiency audits and retrofits to existing buildings.

- RC-5e: Update the Municipal Code to incentivize the use of small-scale renewable energy facilities and, where appropriate, to remove impediments to such uses.

- RC-5f: Cooperate with other agencies, jurisdictions, and organizations to expand energy conservation programs.

- RC-5g: Explore alternative energy sources, including co-generation, active solar energy, and wind generation, and identify opportunities for alternative energy to be used in public and private projects.

- RC-5h: Implement transportation measures, as outlined in the Circulation Element, which reduce the need for automobile use and petroleum products.

- RC-6a: Work with the Air District to implement the Air Quality Management Plan (AQMP).

    - Cooperate with the Air District to develop consistent and accurate procedures for evaluating project-specific and cumulative air quality impacts.

    - Cooperate with the Air District and the State Air Board in their efforts to develop a local airshed model.

    - Cooperate with the Air District in its efforts to develop a cost/benefit analysis of possible control strategies (mitigation measures to minimize short and long-term stationary and area source emissions as part of the development review process, and monitoring measures to ensure that mitigation measures are implemented.

- RC-6b: Review development, land use, transportation, and other projects that are subject to CEQA for potentially significant climate change and air quality impacts, including toxic and hazardous emissions and require that projects provide adequate, appropriate, and cost-effective mitigation measures reduce significant and potentially significant impacts. This includes, but is not limited to, the following:

    - *Use of the Air District "Guide for Assessing and Mitigating Air Quality Impacts", as may be amended or replaced from time to time, in identifying thresholds, evaluating potential project and cumulative impacts, and determining appropriate mitigation measures;*
    - *Contact the Air District for comment regarding potential impacts and mitigation measures as part of the evaluation of air quality effects of discretionary projects that are subject to CEQA;*
    - *Require projects to participate in regional air quality mitigation strategies, including Air District-required regulations, as well as recommended best management practices when applicable and appropriate ;*
    - *Promote the use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*

- *The use of energy efficient lighting (including controls) and process systems beyond Title 24 requirements shall be encouraged where practicable (e.g., water heating, furnaces, boiler units, etc.);*
- *The use of energy efficient automated controls for air conditioning beyond Title 24 requirements shall be encouraged where practicable; and*
- *Promote solar access through building siting to maximize natural heating and cooling, and landscaping to aid passive cooling and to protect from winds;*
- *The developer of a sensitive air pollution receptor shall submit documentation that the project design includes appropriate buffering (e.g., setbacks, landscaping) to separate the use from highways, arterial streets, hazardous material locations and other sources of air pollution or odor;*
- *Identify sources of toxic air emissions and, if appropriate, require preparation of a health risk assessment in accordance with Air District-recommended procedures; and*
- *Circulate the environmental documents for projects with significant air quality impacts to the Air District for review and comment.*

- RC-6c: Review area and stationary source projects that could have a significant air quality impact, either individually or cumulatively, to identify the significance of potential impacts and ensure that adequate air quality mitigation is incorporated into the project, including:

    - *The use of best available and economically feasible control technology for stationary industrial sources;*
    - *All applicable particulate matter control requirements of Air District Regulation VIII;*
    - *The use of new and replacement fuel storage tanks at refueling stations that are clean fuel compatible, if technically and economically feasible;*
    - *Provision of adequate electric or natural gas outlets to encourage use of natural gas or electric barbecues and electric gardening equipment; and*
    - *Use of alternative energy sources.*

- RC-6d: Maintain adequate data to analyze cumulative land use impacts on air quality and climate change. This includes tracking proposed, planned, and approved General Plan amendments, development, and land use decisions so that projects can be evaluated for cumulative air quality impacts, including impacts associated with transportation and land use decisions.

- RC-6e: Prior to entitlement of a project that may be an air pollution point source, such as a manufacturing and extracting facility, the developer shall provide documentation that the use is located and appropriately separated from residential areas and sensitive receptors (e.g., homes, schools, and hospitals).

- RC-6f: Construction activity plans shall include and/or provide for a dust management plan to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard.

Project development applicants shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of Project development and construction.

City of Manteca Climate Action Plan

The City of Manteca adopted its Climate Action Plan (CAP) in October 2013. The purpose of the CAP is to: 1) outline a course of action for the City government and the community of Manteca to reduce per capita greenhouse gas emissions by amounts required to show consistency with AB 32 goals for 2020 and adapt to effects of climate change, and 2) provide clear guidance to City staff regarding when and how to implement key provisions of the CAP, and 3) provide a streamlined mechanism for projects that are consistent with the CAP to demonstrate that they would not contribute significant greenhouse gas impacts.

The GHG Plan is considered a "Qualified Plan," according to CEQA Guidelines Section 15183.5.2. The City's GHG Inventory is evaluated for baselines years 2005 and 2010 and is projected for years 2020 and 2035. The baseline and Business-As-Usual (BAU) emissions GHG inventories for the City of Manteca is summarized in Table 3.7-2. Table 3.7-3 provides a summary of the City's 2020 target, adjusted-BAU emissions, and the local reductions included within the CAP.

TABLE 3.7-2: CITY OF MANTECA BASELINE EMISSIONS INVENTORY AND BUSINESS-AS-USUAL (BAU) EMISSIONS INVENTORY PROJECTIONS (MT CO_2E)

Emissions Sector	*2005*	*2010*	*2020*	*2035*
Transportation	214,075	210,901	275,507	368,297
Electricity – Residential	44,108	47,343	61,212	83,668
Electricity – Commercial	25,014	31,146	35,646	49,327
Natural Gas – Residential	45,527	50,466	65,249	89,186
Natural Gas – Commercial	9,856	11,818	13,526	18,717
Waste	42,305	30,454	21,586	29,505
Ozone Depleting Substance (ODS) substitutes	19,461	26,741	75,711	103,486
Total	**400,346**	**408,869**	**548,437**	**742,186**

NOTE: TOTALS MAY NOT ADD UP DUE TO ROUNDING.
SOURCE: MICHAEL BRANDMAN ASSOCIATES, 2013

TABLE 3.7-3: CITY OF MANTECA 2020 TARGET EMISSIONS INVENTORY (MT CO_2E)

Inventory	*Community Emissions*	*Per Capita Emissions (MT CO_2E/Person)*
2020 BAU	548,437	6.27
2020 Adjusted	441,707	5.05
2020 Target	429,693	4.91
2020 Local Reductions Required	12,014	0.14
2020 Local Reductions Proposed	12,289	0.14
Target Achieved?	Yes	Yes

NOTE: TOTALS MAY NOT ADD UP DUE TO ROUNDING.
SOURCE: MICHAEL BRANDMAN ASSOCIATES, 2013

3.7.3 IMPACTS AND MITIGATION MEASURES

GREENHOUSE GAS EMISSIONS THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed Project would do any of the following:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Approach to Analysis

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the proposed Project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO_2 and other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O), from mobile sources and utility usage.

Climate change is an existing, significant cumulative impact. The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards a significant cumulative impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

For projects, the significance of GHG emissions is evaluated based on a variety of considerations, including quantitative emissions estimates, consistency with a local or regional GHG reduction plan (such as a Climate Action Plan), and consistency with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (such as the State Scoping Plan). More specifically, Section 15064.4(b) of the CEQA Guidelines states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- Consideration #1: The extent to which the Project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting-quantitative considerations.
- Consideration #2: Whether the Project emissions exceed a threshold of significance that the lead agency determines applies to the Project.
- Consideration #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 greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific

requirements that reduce or mitigate the Project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the Project. In determining the significance of impacts, the lead agency may consider a Project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the Project's incremental contribution to climate change and its conclusion that the Project's incremental contribution is not cumulatively considerable.

CONSIDERATION #1

To fulfill Consideration #1, a quantitative emissions estimate was prepared for this Project to establish the expected emission levels, which can then be used to determine the extent to which it may increase greenhouse gas emissions from Project construction and operations, and also reduce greenhouse gas emissions from Project design features, best performance standards, and mitigation measures compared to the existing conditions. This quantitative emissions estimate is included under Impact 3.7-1.

CONSIDERATION #2

To fulfill Consideration #2, an analysis was prepared of whether the Project emissions estimates exceed the levels that the lead agency has determined to apply to the Project. Prior to the Newhall Ranch decision, GHG analysis in CEQA documents often involved comparison of the project emissions to a "no action taken" (NAT) or "business as usual" (BAU) scenario. In the Newhall Ranch decision, the court found that, although comparison of a project to BAU may be appropriate in concept, the comparison of a specific local project against a statewide business as usual scenario is not an analogous comparison. Specifically, the Court stated that the business as usual approach would need to be based on a substantial evidence-supported link between data in the Scoping Plan and the project, at its proposed location, to demonstrate consistency of a project's reductions with statewide goals. It should be noted that, based on current data available, it is not usually possible, within the structure of the Scoping Plan sectors, to develop the evidence to reliably relate a specific land use development project's reductions to the Scoping Plan's statewide goal, as envisioned by the Court, except for projects specifically covered by the Scoping Plan. Based on the court's finding, the NAT approach can be problematic and is no longer recommended for commercial and residential projects, even though this approach is still presented in the SJVAPCD guidance documents. Therefore, the City of Manteca has chosen to replace the SJVAPCD NAT threshold, with an alternative approach to addressing this consideration which is aimed at establishing an emission level as a goal to be used for reducing GHG emissions and ultimately for measuring the effectiveness of mitigation under Consideration #3. This approach consists of evaluating the consistency of a project's GHG efficiency with relevant California's GHG reduction targets. In light of the Newhall Ranch decision, an efficiency target was developed to assess the Project's consistency with doing its fair share to allow California to meet its 2030 target under SB 32.

The City of Manteca CAP had established a target of 4.91 MT CO_2e/SP/year in 2020 to comply with the requirements of AB 32. Based on an independent calculation for the proposed Project (described below), a lower per capita target of 4.84 MT CO_2e/SP/year in 2020 would be a more appropriate quantitative target for the Year 2020 to assess whether the Project is doing its fair share. A 2020 quantitative emission target estimate of 4.84 MT CO_2e/SP/year for the land use-driven emission sectors in the CARB's California GHG Inventory for 1990 was calculated. This approach to developing a GHG efficiency target is consistent with the approach used in the Manteca CAP for establishing targets to help achieve GHG emission reductions in alignment with the requirements of state laws. It is noted that the targets are based only on sectors that would accommodate projected growth (as indicated by population and employment growth) while allowing for the City of Manteca to strive for consistency with the goals of AB 32. More specifically, this per service population efficiency target is lower (i.e., more stringent) than specified in the Manteca CAP, which is based on the AB 32 GHG reduction target and GHG emissions inventory prepared for the CARB's 2008 Scoping Plan. To develop the updated efficiency target for 2020, land-use driven sectors in the CARB's 1990 GHG inventory were identified and separated to tailor the inventory to land use projects. This process removes emission sources that would not be applicable to the Project area. For example, emissions associated with ships and commercial boats, aviation, rail, industrial sources, agriculture and forestry, and unspecified sectors were removed from the CARB's 1990 inventory in order to exclude non-land use sectors. The exceptions for the industrial sector are the landfill and domestic wastewater sub-sectors which were included in development of the GHG efficiency target because emissions from these sectors are included in the Project's emissions profile.

Isolating the land use-driven sectors from the CARB's overall inventory ensures that the target is directly applicable to land use projects, whereby emission sectors included in the inventory used for developing the GHG efficiency target can be mapped to a project's emissions data. For example, emissions associated with on-road transportation, electricity, natural gas, wastewater treatment, and solid waste are included in both the inventory used to develop the GHG efficiency target and the Project's operational emissions. The CARB's complete 1990 inventory and the adjusted land use-driven emissions inventory is shown in Table 3.7-4, below (see **Appendix B** of this EIR for further detail).

TABLE 3.7-4: CALIFORNIA GREENHOUSE GAS INVENTORY FOR 1990 – BY SECTOR AND ACTIVITY (LAND USE-DRIVEN SECTORS ONLY) MILLION METRIC TONS OF CO_2-EQUIAVLENT (CO_2E) – (BASED ON IPCC SECOND ASSESSMENT REPORT'S GLOBAL WARMING POTENTIALS).

Year 1990

Transportation	
On Road	
Passenger Cars	63.77
Light Duty Trucks	44.75
Motorcycles	0.43
Heavy Duty Trucks	29.03
Freight	0.02
Electricity Generation In-State	
CHP: Commercial	***0.70***

Merchant Owned	***2.33***
Transmission and Distribution	***1.56***
Utility Owned	***29.92***
Electricity Generation In-State	
Specified Imports	***29.61***
Transmission and Distribution	***1.02***
Unspecified Imports	***30.96***
Commercial	
CHP: Commercial	***0.40***
Communication	***0.07***
Domestic Utilities	***0.34***
Education	***1.42***
Food Services	***1.89***
Healthcare	***1.32***
Hotels	***0.67***
Not Specified Commercial	***5.58***
Offices	***1.46***
Retail & Wholesale	***0.68***
Transportation Services	***0.03***
Residential	
Household Use	***29.66***
Industrial	
Landfills	***6.26***
Wastewater Treatment	
Domestic Wastewater	2.83
Total Emissions	**286.70**

The land-used sector driven inventory for 1990 was divided by the population and employment projections for California in 2020, to develop the efficiency target for 2020 (based on the assumption that the State has been consistent with the goals of AB 32, which required the State to achieve 1990 levels of GHG emissions by year 2020) (See Table 3.7-5, below, for further detail). This efficiency target allows the target to be applied evenly to all project types (residential, commercial/retail and mixed use) and uses an emissions inventory comprised only of sources from land-use related sectors that can be used as a goal in which to reduce GHG emissions from a development project. The efficiency approach allows the City of Manteca to assess whether any given project or plan would accommodate population and employment growth in a way that is consistent with the emissions limit established under AB 32 and SB 32, and then establish appropriate mitigation strategies to reduce GHG emissions for specific components of a project that can be reasonably reduced with best performance measures and mitigation. The resultant GHG efficiency target is approximately 4.84 MT CO_2e/SP/year for 2020 (Note: this is 0.06 MT CO_2e/SP/year lower than specified in the Manteca CAP for 2020).

However, full buildout of the proposed Project would not occur until after 2020. Given the fact that the State of California has declared a Housing Crisis as a result of a significant housing shortage, it is reasonable to assume that the proposed Project would be built out as soon as physically possible.

Buildout could range from as early as 2025 to as late 2028, but it is not reasonably expected to extend out later than 2028 based on the significant housing shortage that exists in the region (nevertheless, an analysis of buildout year 2030 is also provided within the analysis herein). Therefore, efficiency targets for Year 2025, Year 2028, and Year 2030 were also derived, based on the anticipated buildout year for the proposed Project, following the same methodology as utilized to derive the 2020 efficiency target. The CARB has indicated that an average statewide GHG reduction of 5.2 percent per year from 2020 would be necessary to achieve the State's 2030 target of a 40% reduction in GHGs below 1990 levels by year 2030 (CARB, 2016b). All calculations are based on the IPCC Second Assessment Report's Global Warming Potentials to allow consistent comparison between the CARB 1990 inventory and the California Emissions Estimator Model (CalEEMod) is used to estimate Project emissions). This annual percentage reduction was utilized as a basis for developing the per capita efficiency targets for Year 2025, Year 2028, and Year 2030. Targets for this year were estimated by applying a uniform reduction from the CARB's 1990 emissions inventory and dividing the resultant value by the projected population and employment for each future year (see **Appendix B** of this EIR for detailed calculations). The derived per capita targets are as follows: Year 2025 is 3.56 MT CO_2e/SP/year; Year 2028 is 2.96 MT CO_2e/SP/year; Year 2030 is 2.62 MT CO_2e/SP/year. The City bases its post-2020 significance determination for this proposed Project on the Year 2025, 2028, and 2030 analyses provided herein. These targets provide useful information that can help guide the development of Project specific mitigation strategies, as well as analyze the effectiveness of those mitigation strategies, both of which are important under Consideration #3. This analysis is included under Impact 3.7-1.

Calculations showing derivation of the efficiency targets for year 2020, the year 2025 target, the year 2028 target,and the Year 2030 target are shown in table 3.7-5, below. The Year 2025 emissions target is approximately 25.53% more stringent than the for year 2020, and the year 2028 emissions target is approximately 34.89% more stringent than the for year 2020, to ensure consistency with the 40% reduction in GHG emissions required by year 2030, under SB 32.[2,3] The service population for each year was divided by the emissions target to determine the MT CO_2e/SP/year required to achieve the state targets. Further detail is provided in Appendix B. As shown, the derived per capita target applicable to the Project for Year 2025 is 3.56 MT CO_2e/SP/year and for Year 2028 is 2.96 MT CO_2e/SP/year.

TABLE 3.7-5: FUTURE YEAR SERVICE POPULATION TARGETS (DERIVED)

	Year 2020	Year 2025	Year 2028	Year2030
Population	40,719,999	42,369,923	43,359,877	44,019,846
Employment	18,511,200	19,261,251	19,711,281	20,011,301
Service Population	59,231,199	61,631,173	63,071,158	64,031,147
Emissions (Million Metric Tons)	286.70	219.25	186.66	167.67
MT/SP	**4.84**	**3.56**	**2.96**	**2.62**

[2] This reflects the 5.2 percent per year reduction from 2020 that CARB has identified as being necessary to achieve the 2030 target.
[3] California Air Resources Board. 2015. 2030 Target Scoping Plan Workshop Slides. (October 1, 2015). Available at: http://www.arb.ca.gov/cc/scopingplan/meetings/10_1_15slides/2015slides.pdf

Also, for Consideration #2, the City looked at how other air districts established post-2020 thresholds to determine if land use projects are doing their fair share towards reducing greenhouse gas emissions. Only two air districts have adopted post-2020 CEQA GHG thresholds: the Sacramento Metropolitan Air Quality Management District (SMAQMD) and the Bay Area Air Quality Management District (BAAQMD). Both air districts' current GHG thresholds are supported by substantial evidence and are substantially similar. Nevertheless, the City concludes that the SMAQMD threshold is more appropriate for projects in its jurisdiction because the geographic and development characteristics of the SMAQMD are more like SJVAPCD than those in the BAAQMD. The justification report supporting SMAQMD's GHG threshold is attached as Appendix G.

SMAQMD's *Greenhouse Gas Thresholds for Sacramento County* (June 2020) have been developed with the 2045 statewide carbon neutrality goal in mind. These thresholds provide an additional, alternative approach for analyzing the Project's potential to generate an impact associated with GHGs to a service population threshold derived from Scoping Plan data.

The SMAQMD's GHG thresholds follow a Best Management Practices (BMP) approach, as follows:

- **Best Management Practices**. To demonstrate consistency with the statewide GHG targets, project proponents shall commit to a menu of best management practices (BMPs). There are two tiers of BMPs: Tier 1: Required for all projects to avoid conflicting with long-term State goals, and Tier 2: Required for projects that do not screen out of further requirements (e.g., large or inefficient projects):
    - Tier 1: BMPs Required for all Projects.
        - BMP 1: No natural gas: Projects shall be designed and constructed without natural gas infrastructure.
        - BMP 2: Electric vehicle ready: Projects shall meet the current CalGreen Tier 2 standards, except all EV Capable spaces shall instead be EV Ready.

      Alternatives may be proposed that demonstrate the same level of GHG reductions as BMPs 1 and 2. At a minimum, for purposes of evaluating consistency with 2045 statewide carbon neutrality, a project would need to mitigate any natural gas emissions and require all prewiring necessary so that the building is ready for a future retrofit to all-electric (e.g., such that electric space heating, water heating, drying, and cooking appliances could be installed). Small, efficient projects may screen out of further requirements. This includes projects that screen out due to OPR's de minimis VMT criteria, and projects that emit less than 1,100 MT CO_2e/year prior to implementation of BMP 1 and 2. The 1,100 MT threshold was adopted by the Board with substantial evidence and documented through staff reports.

    - Tier 2: BMP Required for Large or Inefficient projects.
        - BMP 3: As described in more detail in Section 4.3.1 of the *Greenhouse Gas Thresholds for Sacramento County (June 2020)*, residential projects shall achieve a 15% reduction in VMT per resident, and office projects should achieve a 15% reduction in VMT per worker compared to existing average VMT per capita for the county, or for the city if a more local SB 743 target

has been established. Retail projects should achieve no net increase in total VMT, as required to show consistency with SB 743. These reductions can be achieved by many strategies, such as:

- Locate in an area that already has low VMT due to location, transit service, etc.;
- Adopt CAPCOA measures;
- Adopt measures noted in Sacramento's CAP checklist;
- Join a Transportation Management Association;
- Incorporate traffic calming measures;
- Incorporate pedestrian facilities and connections to public transportation;
- Promote electric bicycle or other micro-mobility options.

Quantification methodology for these strategies is described in the SMAQMD Recommended Guidance for Land Use Emission Reductions (AQMP) guidance. Projects that are located in areas with existing VMT per capita above the county or city average VMT per capita shall also provide sufficient electrical capacity (e.g., transmission lines and substation sites) such that 100% of project vehicles have the potential to be zero-emission vehicles in future years.

If a project cannot incorporate the required BMPs, other reductions or purchasing and retiring GHG/carbon offsets from a registry approved by the SMAQMD may be required.

However, as noted above, while the City finds that the SMAQMD threshold is supported by substantial evidence, development projects in the City cannot rely on GHG/carbon offsets from a SMAQMD registry because the City is not actually located in an area regulated by SMAQMD. In addition, the same month that SMAQMD published its thresholds, the California Court of Appeal published *Golden Door Properties, Inc. v. County of San Diego* (2020) 50 Cal.App.5th 467, which questioned the County of San Diego's reliance on carbon credits as CEQA mitigation to reduce impacts from GHG emissions. *Golden Door Properties* suggested that credits available on the voluntary market to projects not covered by Cap-and-Trade, such as the Project, may not meet CEQA's mitigation requirements even if purchased from a CARB-approved registry. Neither CARB nor SJVAPCD currently offers carbon credits for CEQA mitigation. In addition, carbon credits purchased from the voluntary market do not produce the same co-benefits on air quality as local offsets. For these reasons, the City declines to allow the Project to rely on carbon offsets from the voluntary market at this time.

In addition to SMAQMD's documentation supporting its threshold, the City relied on the following state regulations and professional technical guidance to support its choice to rely on SMAQMD's threshold in this EIR:

- Governor's Office of Planning and Research (OPR), Discussion Draft: CEQA and Climate Change Advisory (December 2018) ("OPR GHG Guidance"). The OPR GHG Guidance recommends a route to streamlining project-level CEQA analysis of GHGs by separately assessing the impacts of transportation and building energy emissions. Specifically, the OPR GHG Guidance states that "a land use development project that produces low vehicle miles traveled, achieves applicable building energy efficiency standards, uses no natural gas or other fossil fuels, and includes Energy Star appliances where available may be able to demonstrate a less-than-significant greenhouse gas impact associated with project operation." The OPR GHG Guidance also states that projects that generate a 15 percent reduction in per-capita residential and per-employee office VMT and no increase in per employee retail VMT compared to existing regional/citywide conditions "may have a less-than significant impact, both for transportation and the greenhouse gas emissions associated with transportation." The City's VMT threshold reflects OPR's guidance.

- OPR Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018) ("OPR VMT Guidance"). OPR suggests that VMT-based GHG thresholds for vehicle emissions support California's GHG reduction goals, as stipulated in SB 32 and the 2017 Scoping Plan. The OPR VMT Guidance states that "[b]ased on OPR's extensive review of the applicable research, and in light of an assessment by the California Air Resources Board quantifying the need for VMT reduction in order to meet the state's long-term climate goals, OPR recommends that a per capita or per employee VMT that is 15 percent below that of existing development may be a reasonable threshold . . . . Below these levels, a project could be considered low VMT and would, on that metric, be consistent with 2017 Scoping Plan Update assumptions that achieve climate state climate goals." The City's VMT threshold reflects OPR's guidance.

- Association of Environmental Professionals ("AEP"), Final Whitepaper Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California (October 2016). The AEP whitepaper identifies two hybrid concepts that evaluate transportation GHG emissions and non-transportation GHG emissions separately. The first hybrid concept would use the SB 375 GHG reduction targets as the GHG threshold for vehicles. The second hybrid concept would use the VMT thresholds established pursuant to SB 743 as the GHG threshold for vehicles.

- California Air Resources Board ("CARB"), 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals (January 2019). CARB identified per capita VMT reductions that would achieve state climate goals for 2030 and 2050. CARB wrote, "[c]ertain land use development projects located in areas that would produce rates of total VMT per capita that are approximately 14.3 percent lower than existing conditions, or rates of light-duty VMT per capita that are approximately 16.8 percent lower than existing conditions (either lower than the regional average or other appropriate planning context) could be, by virtue of their location and land use context, interpreted to be consistent with the transportation assumptions embedded in the 2017 Scoping Plan and with 2050 state climate goals." Consistency with the scoping plan and state climate goals is a good way to measure whether impacts would be less than significant.

CONSIDERATION #3

Lastly, to analyze the Project's consistency with Consideration #3 (to determine the Project's consistency with the State's long-term climate goals or strategies), the analysis prepared for the Project includes an assessment of the Project's consistency with the CARB's 2022 Scoping Plan, Air District requirements, SJCOG's Sustainable Communities Strategy (SCS), and the City of Manteca CAP. This assessment includes a consistency analysis with regulations or requirements adopted to reduce greenhouse gas emissions, and also evaluates Project specific GHG emissions and the extent to which they are able to be reduced by effective mitigation strategies including Project design features, best performance measures, and mitigation measures. This assessment is included under Impact 3.7-1.

Conclusion

Based on the discussion above, the following thresholds are applied to this analysis:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Consideration #1 provides useful quantitative estimates of Project emissions. Consideration #2 contains the City's thresholds for the Project and provides a useful metric that can be used to measure the effectiveness of reducing GHG emissions relative to reference targets, addressing Threshold 1, above. Consideration #3 analyzes the Project's consistency with regulations or requirements adopted to reduce greenhouse gas emissions, addressing Threshold 2, above. The analysis below includes an evaluation of Project-specific GHG emissions and the extent to which they are able to be reduced by effective mitigation strategies including Project design features, best performance measures, and mitigation measures.

THRESHOLDS OF SIGNIFICANCE (ENERGY CONSERVATION)

Consistent with Appendices F and G of the CEQA Guidelines, energy-related impacts are considered significant if implementation of the proposed Project would do the following:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation;
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency;

In order to determine whether or not the proposed Project would result in a significant impact on energy use, this EIR includes an analysis of proposed Project energy use, as provided under *Impacts and Mitigation Measures* below.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Project implementation could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. (Significant and Unavoidable)

The proposed Project's short-term construction-related and long-term operational GHG emissions were estimated using the California Emission Estimator Model (CalEEMod)™ (v.2022.1). CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., MT CO_2e), based on the global warming potential of the individual pollutants.

As discussed above, several statewide GHG reduction strategies apply to the Project either directly or indirectly. A summary of these strategies is provided in Table 3.7-6, below.

TABLE 3.7-6: SUMMARY OF STATEWIDE GHG REDUCTION STRATEGIES THAT APPLY TO THE PROJECT

Project Component	*Applicable Laws/Regulations*	*Greenhouse Gas Reduction Measures Required for Project*
Building Components / Facility Operations		
Roofs/Ceilings/ Insulation	CAL Green Code (Title 24, Part 11) California Energy Code (Title 24, Part 6)	The Project must comply with efficiency standards regarding roofing, ceilings, and insulation. For example: Roofs/Ceilings: New construction must reduce roof heat island effects per CALGreen Code Section 106.11.2, which requires use of roofing materials having a minimum aged solar reflectance, thermal emittance complying with Sections A5.106.11.2.2 and A5.106.11.2.3, or a minimum aged Solar Reflectance Index as specified in Table A5.106.11.2.2 or A5.106.11.2.3. Roofing materials must also meet solar reflectance and thermal emittance standards contained in Title 20 Standards. Roof/Ceiling Insulation: Requirements for the installation of roofing and ceiling insulation (see Title 24, Part 6 Compliance Manual at Section 3.2.2).
Flooring	CALGreen Code	The Project must comply with efficiency standards regarding flooring materials. For example, for 80% of floor area receiving "resilient flooring," the flooring must meet applicable installation and material requirements contained in CALGreen Code Section 5.504.4.6.
Window and Doors	California Energy Code	The Project must comply with fenestration efficiency requirements. For example, the choice of windows, glazed doors, and any skylights for the Project must conform to energy consumption requirements

Project Component	*Applicable Laws/Regulations*	*Greenhouse Gas Reduction Measures Required for Project*
		affecting size, orientation, and types of fenestration products used (see Title 24, Part 6 Compliance Manual, Section 3.3).
Building Walls/ Insulation	CALGreen Code California Energy Code	The Project must comply with efficiency requirements for building walls and insulation. Exterior Walls: Must meet requirements in the current edition of the California Energy Code and comply with Section A5.106.7.1 or A5.106.7.2 of CALGreen for wall surfaces, as well as Section 5.407.1, which requires weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2. Construction must also meet requirements contained in Title 24, Part 6, which vary by material of the exterior walls (see Title 24, Part 6 Compliance Manual, Part 3.2.3). Demising (Interior) Walls: Mandatory insulation requirements for demising walls (which separate conditioned from non-conditions space) differ by the type of wall material used (Title 24, Part 6 Compliance Manual Part 3.2.4). Door Insulation: Mandatory requirements for air infiltration rates to improve insulation efficiency; they differ according to the type of door (Title 24, Part 6 Compliance Manual Part 3.2.5). Flooring Insulation: Mandatory requirements for insulation that depend on the material and location of the flooring (Title 24, Part 6 Compliance Manual Part 3.2.6).
Finish Materials	CALGreen	The Project must comply with pollutant control requirements for finish materials. For example, materials including adhesives, sealants, caulks, paints and coatings, carpet systems, and composite wood products must meet requirements in CALGreen to ensure pollutant control (CALGreen Section 5.504.4).
Wet Appliances (Toilets/Faucets/Urinal, Dishwasher/Clothes Washer, Spa and Pool/Water Heater)	CALGreen, California Energy Code, Appliance Efficiency Regulations (Title 20 Standards)	Wet appliances associated with the Project must meet various efficiency requirements. For example: Pool: Use associated with the Project is subject to appliance efficiency requirements for service water heating systems and equipment and spa and pool heating systems and equipment (Title 24, Part 6, Sections 110.3, 110.4, 110.5; Title 20 Standards, Sections 1605.1(g), 1605.3(g); see also California Energy Code). Toilets/Faucets/Urinals: Use associated with the Project is subject to new maximum rates for toilets, urinals, and faucets effective January 1, 2016 (Title 20 Standards, Sections 1605.1(h),(i) 1065.3(h),(i)): ■ Showerheads maximum flow rate 2.5 gallons per minute (gpm) at 80 pounds per square inch (psi) ■ Wash fountains 2.2 x (rim space in inches/20) gpm at 60 psi

PROJECT COMPONENT	*APPLICABLE LAWS/REGULATIONS*	*GREENHOUSE GAS REDUCTION MEASURES REQUIRED FOR PROJECT*
		■ Metering faucets 0.25 gallons per cycle ■ Lavatory faucets and aerators 1.2 gpm at 60 psi ■ Kitchen faucets and aerators 1.8 gpm with optional temporary flow of 2.2 gpm at 60 psi ■ Public lavatory faucets 0.5 gpm at 60 psi ■ Trough-type urinals 16 inches length ■ Wall mounted urinals 0.125 gallons per flush ■ Other urinals 0.5 gallons per flush Water Heaters: Use associated with the Project is subject to appliance efficiency requirements for water heaters (Title 20 Standards, Sections 1605.1(f), 1605.3(f)). Dishwasher/Clothes Washer: Use associated with the Project is subject to appliance efficiency requirements for dishwashers and clothes washers (Title 20 Standards, Sections 1605.1(o),(p),(q), 1605.3(o),(p),(q)).
Dry Appliances (Refrigerator/Freezer, Heater/Air Conditioner, Clothes Dryer)	Title 20 Standards CALGreen Code	Dry appliances associated with the Project must meet various efficiency requirements. For example: Refrigerator/Freezer: Use associated with the Project is subject to appliance efficiency requirements for refrigerators and freezers (Title 20 Standards, Sections 1605.1(a), 1605.3(a)). Heater/Air Conditioner: Use associated with the Project is subject to appliance efficiency requirements for heaters and air conditioners (Title 20 Standards, Sections 1605.1(b),(c),(d),(e), 1605.3(b),(c),(d),(e) as applicable). Clothes Dryer: Use associated with the Project is subject to appliance efficiency requirements for clothes dryers (Title 20 Standards, Section 1605.1(q)).
	CALGreen Code	Installations of heating, ventilation, and air conditioning; refrigeration and fire suppression equipment must comply with CALGreen Sections 5.508.1.1 and 508.1.2, which prohibits CFCs, halons, and certain HCFCs and HFCs.
Lighting	Title 20 Standards	Lighting associated with the Project are subject to energy efficiency requirements contained in Title 20 Standards. General Lighting: Indoor and outdoor lighting associated with the Project must comply with applicable appliance efficiency regulations (Title 20 Standards, Sections 1605.1(j),(k),(n), 1605.3(j),(k),(n)).

PROJECT COMPONENT	*APPLICABLE LAWS/REGULATIONS*	*GREENHOUSE GAS REDUCTION MEASURES REQUIRED FOR PROJECT*
		Emergency Lighting and Self-Contained Lighting: Project must also comply with applicable appliance efficiency regulations (Title 20 Standards, Sections 1605.1(l), 1605.3(l)). Emergency Lighting and Self-Contained Lighting: Project must also comply with applicable appliance efficiency regulations (Title 20 Standards, Sections 1605.1(l), 1605.3(l)). Traffic Signal Lighting: For any necessary Project improvements involving traffic lighting, traffic signal modules and traffic signal lamps will need to comply with applicable appliance efficiency regulations (Title 20 Standards, Sections 1605.1(m), 1605.3(m)).
	California Energy Code	Lighting associated with the Project will also be subject to energy efficiency requirements contained in Title 24, Part 6, which contains energy standards for non-residential indoor lighting and outdoor lighting (see Title 24 Part 6 Compliance Manual, at Sections 5, 6). Mandatory lighting controls for indoor lighting include, for example, regulations for automatic shut-off, automatic daytime controls, demand responsive controls, and certificates of installation (Title 24 Part 6 Compliance Manual at Section 5). Regulations for outdoor lighting include, for example, creation of lighting zones, lighting power requirements, a hardscape lighting power allowance, requirements for outdoor incandescent and luminaire lighting, and lighting control functionality (Title 24 Part 6 Compliance Manual Section 6).
	AB 1109	Lighting associated with the Project will be subject to energy efficiency requirements adopted pursuant to AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general purpose lighting to reduce electricity consumption 25% for indoor commercial lighting.
Bicycle and Vehicle Parking	CALGreen Code	The Project will be required to provide compliant bicycle parking, fuel-efficient vehicle parking, and electric vehicle (EV) charging spaces (CALGreen Code Sections 5.106.4, 5.106.5.1, 5.106.5.3).
	California Energy Code	The Project is subject to parking requirements contained in Title 24, Part 6. For example, parking capacity is to meet but not exceed minimum local zoning requirements, and the Project should employ approved strategies to reduce parking capacity (Title 24, Part 6, Section 106.6).
Landscaping	CALGreen Code	CALGreen requires and has further voluntary provisions for the following: ■ A water budget for landscape irrigation use

Project Component	*Applicable Laws/Regulations*	*Greenhouse Gas Reduction Measures Required for Project*
		■ For new water service, separate meters or submeters must be installed for indoor and outdoor potable water use for landscaped areas of 1,000 to 5,000 square feet ■ Provide water-efficient landscape design that reduces use of potable water beyond initial requirements for plant installation and establishment
	Model Water Efficient Landscaping Ordinance	The model ordinance promotes efficient landscaping in new developments and establishes an outdoor water budget for new and renovated landscaped areas that are 500 square feet or larger (CCR, Title 23, Division 2, Chapter 2.7).
Refrigerants	CARB Management of High GWP Refrigerants for Stationary Sources	Any refrigerants associated with the Project would be subject to CARB standards. CARB's Regulation for the Management of High GWP Refrigerants for Stationary Sources reduces emissions of high-GWP refrigerants from leaky stationary, non-residential refrigeration equipment; reduces emissions resulting from the installation and servicing of stationary refrigeration and air conditioning appliances using high-GWP refrigerants; and requires verification GHG emission reductions (CCR, Title 17, Division 3, Chapter 1, Subchapter 10, Article 4, Subarticle 5.1, Section 95380 et seq.).
Consumer Products	CARB High GWP GHGs in Consumer Products	All consumer products associated with the Project will be subject to CARB standards. CARB's consumer products regulations set VOC limits for numerous categories of consumer products, and limits the reactivity of the ingredients used in numerous categories of aerosol coating products (CCR, Title 17, Division 3, Chapter 1, Subchapter 8.5).
Construction		
Use of Off-Road Diesel Engines, Vehicles, and Equipment	CARB In-Use Off-Road Diesel Vehicle Regulation	Any relevant vehicle or machine use associated with the Project will be subject to CARB standards. The CARB In-Use-Off-Road Diesel Vehicle Regulation applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; restricts the adding of older vehicles into fleets starting on January 1, 2014; and requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The requirements and compliance dates of the Off-Road Regulation vary by fleet size, as defined by the regulation.
Greening New Construction	CALGreen Code	All new construction, including the Project, must comply with CALGreen, as discussed in more detail throughout this table. Adoption of the mandatory CALGreen standards for construction has

PROJECT COMPONENT	*APPLICABLE LAWS/REGULATIONS*	*GREENHOUSE GAS REDUCTION MEASURES REQUIRED FOR PROJECT*
		been essential for improving the overall environmental performance of new buildings; it also sets voluntary targets for builders to exceed the mandatory requirements.
Construction Waste	CALGreen Code	The Project would be subject to CALGreen requirements for construction waste reduction, disposal, and recycling, such as a requirement to recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction waste in accordance with Section 5.408.1.1, 5.408.1.2, or 5.408.1.3, or meet a local construction and demolition waste management ordinance, whichever is more stringent.
SOLID WASTE		
Solid Waste Management	Landfill Methane Control Measure	Waste associated with the Project would be disposed of per state requirements for landfills, material recovery facilities, and transfer stations. Per the statewide GHG emissions inventory, the largest emissions from waste management sectors come from landfills and are in the form of methane (CH_4). In 2010, CARB adopted a regulation that reduces emissions from CH_4 in landfills, primarily by requiring owners and operators of certain uncontrolled municipal solid waste landfills to install gas collection and control systems, and requires existing and newly installed gas and control systems to operate in an optimal manner. The regulation allows local air districts to voluntarily enter into a memorandum of understanding with CARB to implement and enforce the regulation and to assess fees to cover costs of implementation.
	Mandatory Commercial Recycling (AB 341)	AB 341 will require the Project, if it generates 4 cubic yards or more of commercial solid waste per week, to arrange for recycling services using one of the following: self-haul, subscribe to a hauler, arrange for pickup of recyclable materials, or subscribe to a recycling service that may include mixed waste processing that yields diversion results comparable to source separation. The Project will also be subject to local commercial solid waste recycling programs required to be implemented by each jurisdiction under AB 341.
	CALGreen Code	The Project will be subject to CALGreen requirements to provide areas that serve the entire building and are identified for depositing, storing, and collecting nonhazardous materials for recycling (CALGreen Code Section 5.410.1).
ENERGY USE		
Renewable Energy	California RPS (SB X1-2, SB 350, SB 100, and SB 1020)	Energy providers associated with the Project will be required to comply with the RPS set by SB X1 2, SB 350, and SB 100. SB X1 2 required investor-owned utilities, publicly owned utilities, and electric service providers to increase purchases of renewable energy such that at least 33% of retail sales are procured from

PROJECT COMPONENT	APPLICABLE LAWS/REGULATIONS	GREENHOUSE GAS REDUCTION MEASURES REQUIRED FOR PROJECT
		renewable energy resources by December 31, 2020. In the interim, each entity was required to procure an average of 20% of renewable energy for the period of January 1, 2011 through December 31, 2013; and were required to procure an average of 25% by December 31, 2016, and 33% by 2020. SB 350 requires retail sellers and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030. SB 100 increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California by 2045. SB 1020 built on the standards set forth in SB 100, establishing that 90% of the retail sales of electricity must be carbon free by 2035, 95% must be carbon free by 2040, and, as stated in SB 100, 100% must be carbon free by 2045.
	Million Solar Roofs Program (SB1)	As part of Governor Schwarzenegger's Million Solar Roofs Program, California set a goal to install 3,000 megawatts of new solar capacity through 2016. The Million Solar Roofs Program is a ratepayer-financed incentive program aimed at transforming the market for rooftop solar systems by driving down costs over time.
	California Solar Initiative-Thermal Program	Multifamily properties qualify for rebates of up to $800,000 on solar water heating systems and eligible solar pool heating systems qualify for rebates of up to $500,000. Funding for the California Solar Initiative –Thermal program comes from ratepayers of Pacific Gas & Electric, SCE, Southern California Gas Company, and San Diego Gas & Electric. The rebate program is overseen by the CPUC as part of the California Solar Initiative.
VEHICULAR/MOBILE SOURCES		
General	SB 375 and RTP/SCS	The Project complies with, and is subject to, the San Joaquin Council of Governments RTP/SCS adopted in 2022, as shown in Table 3.7-16 below.
Fuel	Low Carbon Fuel Standard (LCFS)/ EO S-01-07	Auto trips associated with the Project will be subject to the Low Carbon Fuel Standard (EO S-01-07), which required a 10% or greater reduction in the average fuel carbon intensity by 2020 with a 2010 baseline for transportation fuels in California regulated by CARB. The program establishes a strong framework to promote the low carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG goals.

Project Component	*Applicable Laws/Regulations*	*Greenhouse Gas Reduction Measures Required for Project*
Automotive Refrigerants	CARB Regulation for Small Containers of Automotive Refrigerant	Vehicles associated with the Project will be subject to CARB's Regulation for Small Containers of Automotive Refrigerant (CCR, Title 17, Division 3, Chapter 1, Subchapter 10, Article 4, Subarticle 5, Section 95360 et seq.). The regulation applies to the sale, use, and disposal of small containers of automotive refrigerant with a GWP greater than 150. The regulation achieves emission reductions through implementation of four requirements: use of a self-sealing valve on the container, improved labeling instructions, a deposit and recycling program for small containers, and an education program that emphasizes best practices for vehicle recharging. This regulation went into effect on January 1, 2010, with a 1-year sell-through period for containers manufactured before January 1, 2010. The target recycle rate was initially set at 90%, and rose to 95% beginning January 1, 2012.
Light-Duty Vehicles	AB 1493 (or the Pavley Standard)	Cars that drive to and from the Project will be subject to AB 1493, which directed CARB to adopt a regulation requiring the maximum feasible and cost-effective reduction of GHG emissions from new passenger vehicles. Pursuant to AB 1493, CARB adopted regulations that established a declining fleet average standard for CO2, CH4, N2O, and HFCs (air conditioner refrigerants) in new passenger vehicles and light-duty trucks beginning with the 2009 model year and phased-in through the 2016 model year. These standards were divided into those applicable to lighter and those applicable to heavier portions of the passenger vehicle fleet. The regulations will reduce "upstream" smog-forming emissions from refining, marketing, and distribution of fuel.
	Advanced Clean Car and ZEV Programs	Cars that drive to and from the Project will be subject to the Advanced Clean Car and ZEV Programs. In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles (ZEVs) into a single package of standards called Advanced Clean Cars. By 2025, new automobiles will emit 34% less global warming gases and 75% less smog-forming emissions. The ZEV Program will act as the focused technology of the Advanced Clean Cars Program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid EVs in the 2018–2025 model years. The Advanced Clean Cars II (ACC II) regulation builds on the Advanced Clean Cars (ACC) rule adopted in 2012. ACC II decreases emissions by increasing EV sales via two programs. First, the under the ZEV program, original equipment manufacturers (OEMs) must increase sales of ZEV vehicles from 35 percent in 2026 to 100 percent in 2035. Second, ACC II further strengthened the LEV program discussed

PROJECT COMPONENT	*APPLICABLE LAWS/REGULATIONS*	*GREENHOUSE GAS REDUCTION MEASURES REQUIRED FOR PROJECT*
		above, with more stringent emission standards beginning with model year 2025.
	Tire Inflation Regulation	Cars that drive to and from the Project will be subject to the CARB Tire Inflation Regulation, which took effect on September 1, 2010, and applies to vehicles with a gross vehicle weight rating of 10,000 pounds or less. Under this regulation, automotive service providers must, inter alia, check and inflate each vehicle's tires to the recommended tire pressure rating, with air or nitrogen, as appropriate, at the time of performing any automotive maintenance or repair service, to keep a copy of the service invoice for a minimum of 3 years, and to make the vehicle service invoice available to the CARB or its authorized representative upon request.
	EPA and NHTSA GHG and CAFÉ standards.	Mobile sources that travel to and from the Project site would be subject to EPA and NHTSA GHG and CAFE standards for passenger cars, light-duty trucks, and medium-duty passenger vehicles (75 FR 25324–25728 and 77 FR 62624–63200).
Medium-and Heavy-Duty Vehicles	CARB In-Use On-Road Heavy-Duty Diesel Vehicles Regulation (Truck and Bus Regulation)	Any heavy-duty trucks associated with the Project will be subject to CARB standards. The regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. The regulation applies to nearly all privately and federally owned diesel fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating greater than 14,000 pounds. To further reduce emissions, the Advanced Clean Truck Act (ACT) requires original equipment manufacturers of medium- and heavy-duty vehicles to sell ZEVs or near-zero-emissions vehicles (NZEVs) such as plug-in electric hybrids as an increasing percentage of their annual sales from 2024 to 2035. The ACT includes a cap-and-trade system, capping the number of fossil fuel vehicles sold by stipulating annual sales percentage requirements. Manufacturers can comply with the ACT by generating compliance credits through the sale of ZEVs or NZEVs or through the trading of compliance credits.
	CARB In-Use Off-Road Diesel Vehicle Regulation	Any relevant vehicle or machine use associated with the Project will be subject to CARB standards. The CARB In-Use-Off-Road Diesel Vehicle Regulation applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulations impose limits on idling, require a written idling policy, and require a disclosure when selling vehicles; require all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; restricted the adding of older vehicles into fleets starting on January 1, 2014; and require fleets to reduce their emissions by retiring, replacing, or repowering older

PROJECT COMPONENT	*APPLICABLE LAWS/REGULATIONS*	*GREENHOUSE GAS REDUCTION MEASURES REQUIRED FOR PROJECT*
		engines, or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The requirements and compliance dates of the Off-Road regulation vary by fleet size, as defined by the regulation.
	Heavy-Duty Vehicle GHG Emission Reduction Regulation	Any relevant vehicle or machine use associated with the Project will be subject to CARB standards. The CARB Heavy-Duty Vehicle GHG Emission Reduction Regulation applies to heavy-duty tractors that pull 53-foot or longer box-type trailers (CCR, Title 17, Division 3, Chapter 1, Subchapter 10, Article 4, Subarticle 1, Section 95300 et seq.). Fuel efficiency is improved through improvements in tractor and trailer aerodynamics and the use of low rolling resistance tires.
	EPH and NHTSA GHG and CAFÉ standards.	Mobile sources that travel to and from the Project site would be subject to EPA and NHTSA GHG and CAFE standards for medium-and heavy-duty vehicles (76 FR 57106–57513).
WATER USE		
Water Use Efficiency	Emergency State Water Board Regulations	Water use associated with the Project will be subject to emergency regulations. On May 18, 2016, partially in response to EO B-27-16, the State Water Board adopted emergency water use regulations (CCR, title 23, Section 864.5 and amended and re-adopted Sections 863, 864, 865, and 866). The regulation directs the State Water Board, Department of Water Resources, and CPUC to implement rates and pricing structures to incentivize water conservation, and calls upon water suppliers, homeowner's associations, California businesses, landlords and tenants, and wholesale water agencies to take stronger conservation measures.
	SB X7-7	Water provided to the Project will be affected by SB X7-7's requirements for water suppliers. SB X7-7, or the Water Conservation Act of 2009, requires all water suppliers to increase water use efficiency. It also requires, among other things, that the Department of Water Resources, in consultation with other state agencies, develop a single standardized water use reporting form, which would be used by both urban and agricultural water agencies.
	CALGreen Code	The Project is subject to CALGreen's water efficiency standards, including a required 20% mandatory reduction in indoor water use (CALGreen Code, Division 4.3).
	California RPS	Electricity usage associated with Project water and wastewater

SHORT-TERM CONSTRUCTION GHG EMISSIONS

Estimated maximum mitigated GHG emissions associated with construction of the proposed Project are summarized in Table 3.7-7.[4] These emissions include all worker vehicle, vendor vehicle, hauler vehicle, and off-road construction vehicle GHG emissions. For the purposes of this analysis, based on input from the Project Proponents, the proposed Project is assumed to commence construction in 2023 and finish between 2025 and 2028. It should be noted that this schedule has changed because the CEQA process has taken longer than anticipated. Nevertheless, construction equipment would produce fewer GHG emissions in the future due to the push towards cleaner engines and electric equipment, and as such, assuming a 2023 regulatory environment results in a conservative analysis that overstates impacts. A regularized construction schedule was utilized for modeling purposes for the sake of simplicity.

TABLE 3.7-7: MAXIMUM CONSTRUCTION GHG EMISSIONS (AVERAGE MT CO_2E/YEAR)

YEAR	*BIO- CO_2*	*NON-BIO-CO_2*	*TOTAL CO_2*	*CH_4*	*N_2O*	*R*	*CO_2E*
2025	0	1,018	1,018	0.1	0	1	1,040

SOURCES: CALEEMOD (V.2022.1)

As presented in the table, short-term construction emissions of GHGs are estimated at a maximum of approximately 1,040 MT CO_2e per construction year.

OPERATIONAL GHG EMISSIONS

The operational GHG emissions estimate for the proposed Project includes on-site area, energy, mobile, waste, and water emissions generated by the Project during its operation. Estimated GHG emissions associated with the proposed Project for a range of buildout years (2025, 2028, and 2030) are summarized in Table 3.7-8 through Table 3.7-10, respectively, below. It should be noted that CalEEMod does not account for the Governor Newsom's Zero-Emission by 2035 Executive Order (N-79-20), which requires that all new cars and passenger trucks sold in California be zero-emission vehicles by 2035. This is anticipated to substantially reduce the operational emissions associated with passenger vehicles (i.e. mobile emissions) over time, including prior the 2035 final implementation year. Moreover, CalEEMod does not account for the energy savings associated with the 2022 Building Code, which added additional requirements that would further reduce GHG emissions.

As shown in the following tables, the annual unmitigated GHG emissions associated with the proposed Project would be approximately 11,497 MT CO_2e per year if buildout were to occur in year 2025, 10,706 MT CO_2e per year if buildout were to occur in year 2028, and 10,586 MT CO_2e per year if buildout were to occur in year 2030. These GHG emission reductions in 2028 and 2030 are mostly attributed to mobile source emission reductions improvements in emission factors of the vehicle

[4] Emissions in Table 3.7-3 account for the required construction-related control measures required by the SJVAPCD, including watering exposed surfaces, watering unpaved construction roads, limiting vehicle speeds on unpaved roads, and sweeping paved roads.

fleet. It is noted that the GHG reductions for mobile sources continues to improve beyond 2030 as the vehicle fleet continues to shift toward low or no emission vehicles.

TABLE 3.7-8: OPERATIONAL GHG EMISSIONS AT BUILDOUT (YEAR 2025) (METRIC TONS/YEAR)

GHG Sector	Bio- CO_2	Non-Bio- CO_2	Total CO_2	CH_4	N_2O	R	CO_2E
Area	0	11.3	11.3	<0.1	<0.1	0	11.4
Energy	0	1,667	1,667	0.1	<0.1	0	1,671
Mobile	0	9,402	9,402	0.3	0.3	16.8	9,503
Waste	69.7	0	69.7	7.0	<0.1	0	244
Water	11.8	16.5	28.3	1.2	<0.1	0	67.2
Refrigerants	0	0	0	0	0	1.9	0
Total	**81.5**	**11,096**	**11,178**	**8.6**	**0.3**	**18.7**	**11,497**

SOURCES: CALEEMOD (V.2022.1)

TABLE 3.7-9: OPERATIONAL GHG EMISSIONS AT BUILDOUT (YEAR 2028) (METRIC TONS/YEAR)

GHG Sector	Bio- CO_2	Non-Bio- CO_2	Total CO_2	CH_4	N_2O	R	CO_2E
Area	0	11.3	11.3	<0.1	<0.1	0	11.4
Energy	0	1,667	1,667	0.1	<0.1	0	1,671
Mobile	0	8,627	8,627	0.2	0.2	11.7	8,711
Waste	69.7	0	69.7	7.0	<0.1	0	244
Water	11.8	16.5	28.3	1.2	<0.1	0	67.2
Refrigerants	0	0	0	0	0	1.9	0
Total	**81.5**	**10,322**	**10,403**	**8.5**	**0.3**	**13.6**	**10,706**

SOURCES: CALEEMOD (V.2022.1)

TABLE 3.7-10: OPERATIONAL GHG EMISSIONS AT BUILDOUT (YEAR 2030) (METRIC TONS/YEAR)

GHG Sector	Bio- CO_2	Non-Bio- CO_2	Total CO_2	CH_4	N_2O	R	CO_2E
Area	0	11.3	11.3	<0.1	<0.1	0	11.4
Energy	0	1,667	1,667	0.1	<0.1	0	1,671
Mobile	0	8,515	8,515	0.2	0.2	8.9	8,591
Waste	69.7	0	69.7	7.0	<0.1	0	244
Water	11.8	16.5	28.3	1.2	<0.1	0	67.2
Refrigerants	0	0	0	0	0	1.9	0
Total	**81.5**	**10,210**	**10,291**	**8.5**	**0.2**	**10.8**	**10,586**

SOURCES: CALEEMOD (V.2022.1)

As noted above, the Project must comply with Title 24. Under the 2022 version of Title 24, and the proposed Project must include several design features that would reduce Project operational emissions below those shown in Tables 3.7-8 through 3.7-10, above. For example, the proposed Project would install a total of approximately 3,619,113 kWh per year of on-site solar. Moreover, the proposed Project would use 100% Energy Star appliances, install electric heaters in place of natural gas heaters, and install low-flow and/or high-efficiency water fixtures. Under the state Water Efficient Landscape Ordinance, the Project must install drought-tolerant landscaping.

Table 3.7-11 through Table 3.7-13, below, provide the annual emissions associated with the proposed Project after accounting for these Project design features that would further reduce Project emissions, as well as the mitigation included in Mitigation Measure 3.7-1 through 3.7-3, where quantification was possible, for years 2025, 2028, and 2030.[5]

TABLE 3.7-11: OPERATIONAL GHG EMISSIONS AT BUILDOUT (YEAR 2025) WITH PROJECT DESIGN FEATURES AND MITIGATION INCORPORATED (METRIC TONS/YEAR)

GHG Sector	*Bio- CO_2*	*Non-Bio-CO_2*	*Total CO_2*	*CH_4*	*N_2O*	*R*	*CO_2E*
Area	0	11.3	11.3	<0.1	<0.1	0	11.4
Energy	0	289	289	0.1	<0.1	0	289
Mobile	0	9,402	9,402	0.3	0.3	16.8	9,503
Waste	69.7	0	69.7	7.0	<0.1	0	244
Water	10.2	10.2	20.4	1.0	<0.1	0	54.1
Refrigerants	0	0	0	0	0	1.9	1.9
Vegetation	0	-37.8	-37.8	0	0	0	-37.8
Total	**79.9**	**9,674**	**9.754**	**8.3**	**0.3**	**18.7**	**10,065**

SOURCES: CALEEMOD (V.2022.1)

TABLE 3.7-12: OPERATIONAL GHG EMISSIONS AT BUILDOUT (YEAR 2028) WITH PROJECT DESIGN FEATURES AND MITIGATION INCORPORATED (METRIC TONS/YEAR)

GHG Sector	*Bio- CO_2*	*Non-Bio-CO_2*	*Total CO_2*	*CH_4*	*N_2O*	*R*	*CO_2E*
Area	0	11.3	11.3	<0.1	<0.1	0	11.4
Energy	0	289	289	0.1	<0.1	0	289
Mobile	0	8,627	8,627	0.3	0.2	11.7	8,711
Waste	69.7	0	69.7	7.0	<0.1	0	244
Water	10.2	10.2	20.4	1.0	<0.1	0	54.1
Refrigerants	0	0	0	0	0	1.9	1.9
Vegetation	0	-37.8	-37.8	0	0	0	-37.8
Total	**79.9**	**8,899**	**8,979**	**8.3**	**0.3**	**13.6**	**9,273**

SOURCES: CALEEMOD (V.2022.1)

[5] Project design features were provided by the Project applicants based on required compliance with 2022 Title 24.

TABLE 3.7-13: OPERATIONAL GHG EMISSIONS AT BUILDOUT (YEAR 2030) WITH PROJECT DESIGN FEATURES AND MITIGATION INCORPORATED (METRIC TONS/YEAR)

GHG Sector	*Bio- CO_2*	*Non-Bio-CO_2*	*Total CO_2*	*CH_4*	*N_2O*	*R*	*CO_{2E}*
Area	0	11.3	11.3	<0.1	<0.1	0	11.4
Energy	0	289	289	0.1	<0.1	0	289
Mobile	0	8,515	8,515	0.2	0.2	8.9	8,591
Waste	69.7	0	69.7	7.0	<0.1	0	244
Water	10.2	10.2	20.4	1.0	<0.1	0	54.1
Refrigerants	0	0	0	0	0	1.9	1.9
Vegetation	0	-37.8	-37.8	0	0	0	-37.8
Total	**79.9**	**8,788**	**8,868**	**8.2**	**0.2**	**10.8**	**9,154**

SOURCES: CALEEMOD (V.2022.1)

As shown in the above tables, the Project with design features (including those required by Title 24) and mitigation measures incorporated would reduce total operational GHG emissions by approximately 1,432 MT CO_2e per year in year 2025, 1,433 MT CO_2e per year in year 2028, and 1,432 MT CO_2e per year in year 2030. This is mainly due to the reduction in natural gas usage that would occur due to the usage of natural gas within the Project only for stove cooktops and barbeques, as well as the reduction in electricity usage associated with the installation of on-site rooftop solar panels.

Furthermore, it should be noted that data available from CARB's EMFAC2021 database identifies that approximately 3.71% and 4.94% of VMT in San Joaquin County would be from electric vehicles, by 2025 and 2028, respectively. It is notable that the continued electrification of the mobile vehicle fleet is anticipated, and may trend toward higher numbers within the fleet as we start to see electric vehicle prices come down significantly from prices seen over the past five to ten years. An increase in the electric vehicle numbers within the fleet would provide GHG reductions beyond what is reflected in this modeling. Further detail is provided under the Project consistency analysis (i.e. the "Consistency with Applicable Plans, Policies, and Regulations" discussion), provided below.

Lastly, it is important to note that GHG emissions associated with the Project would decrease over time, in future years beyond the years 2025, 2028, and 2030. Specifically, mobile emissions, which represent the largest Project GHG emissions category, would be reduced substantially over time, beyond year 2030, due to factors such as increased electrification of the vehicle fleet, as well as improvements to the efficiency of gasoline and diesel-powered vehicles and transit service in the City. **Comparison to the Efficiency Targets:** The quantitative estimates of Project emissions provided above provides useful information that can be used to measure the effectiveness of reducing GHG emissions relative to reference targets and ultimately help guide mitigation strategies.

According to the Traffic Study prepared for the proposed Project (Fehr & Peers, 2022), and as described in more detail in Section 3.13 of this EIR, the Project would generate daily vehicle trips of approximately 8,090 per day, which would generate mobile source GHG emissions. The proposed Project would also generate additional emissions from on-site energy, waste, and water emissions.

The proposed Project is estimated to generate approximately 2,910 residents during the Project's operational phase based on the most recent U.S. Census (2019) and Department of Finance (2020) estimates for the average number of persons residing in a dwelling unit in the City of Manteca of 3.18. However, the latest CalEEMod model (v.2022.1) uses a slightly higher population factor that results in a population of 2,955. For the air model the slightly higher population estimate is used and should be considered a more conservative number for purposes of the air modeling and greenhouse gas emissions.[6] Dividing the total annual operational GHG emissions at Project buildout (2025) by this number of estimated residents generated by the Project (after accounting for both Project design features) yields approximately 3.41 MT CO_2e/SP/Year, which is below the 3.56 MT CO_2e/SP/year in 2025 target based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. However, taking this same approach for year 2028 yields approximately 3.14 MT CO_2e/SP/Year, which is above the 2.96 MT CO_2e/SP/year in 2028 target based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. Furthermore, taking this same approach for year 2030 yields approximately 3.10 MT CO_2e/SP/Year, which is above the 2.62 MT CO_2e/SP/year in 2030 target based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. Therefore, the proposed Project would be required to implement mitigation to reduce emissions.

Mitigation Measure 3.7-2 requires the proposed Project to achieve the 3.56 MT CO_2e/SP/year (2025 target) for Project components built by Year 2025, 2.96 MT CO_2e/SP/year (2028 target) for Project components built after Year 2025 but by Year 2028, and 2.62 MT CO_2e/SP/year (2030 target) for Project components built after Year 2028 but by Year 2030, through on- or off-site GHG reductions (or a combination thereof).

With implementation of Mitigation Measure 3.7-3, the proposed Project GHG emissions can be reduced but not to the GHG targets established for the Project in 2028 and 2030. In specific, as described in Mitigation Measure 3.7-3, the collective present and future applicants for the development approvals within the overall Project site together are required to implement a variety of onsite and local offsite measures. Nonetheless, as shown under Mitigation Measure 3.7-3, there are insufficient reductions from onsite and local offsite measures to reduce emissions sufficiently to meet the service population thresholds for year 2028 and 20230. The primary driver of emissions are automobiles, and the regulation of vehicle emissions is beyond the City's control. In addition, as discussed above, the California courts have called into question the ability of carbon offsets from the voluntary market to meet CEQA mitigation requirements and neither CARB nor SJVAPCD offer carbon offsets for CEQA mitigation. Further, the City's policy is to prioritize local GHG reductions to capture the co-benefits of reduced air emissions in a community where air quality is a concern. For these reasons, the Project's GHG emissions are **less than significant with mitigation** in **2025**, but **significant and unavoidable** in **2028 and 2030** after all feasible mitigation.

[6] This estimate is the CalEEMod model's estimate, which is based on the California Department of Finance's, E-5 Population and Housing Estimates for Cities, Counties, and the State – January 1, 2011-2020. CalEEMod calculates this amount based on the residential land use subtypes and unit counts.

CONSISTENCY WITH THE SMAQMD THRESHOLDS (BEST MANAGEMENT PRACTICES)

The SMAQMD's GHG thresholds follow a Best Management Practices (BMP) approach. Specifically, consistency with the SMAQMD's threshold requires a demonstration of commitment to a menu of BMPs. There are two tiers of BMPs: Tier 1: Required for all projects to avoid conflicting with long-term State goals, and Tier 2: Required for projects that do not screen out of further requirements (e.g., large or inefficient projects). Based on the size of the Project, the Project would be required to be consistent with both tiers (i.e. both Tier 1 and Tier 2) of BMPs. Under the SMAQMD threshold, alternatives may be proposed that demonstrate the same level of GHG reductions as BMPs 1 and 2. At a minimum, for purposes of evaluating consistency with 2045 statewide carbon neutrality, a project would need to mitigate any natural gas emissions and require all prewiring necessary so that the building is ready for a future retrofit to all-electric (e.g., such that electric space heating, water heating, drying, and cooking appliances could be installed).

The Project currently proposes natural gas infrastructure and homeowners could have natural gas and thus the Project is inconsistent with the Tier 1 BMP. However, through the provision of solar panels, the Project would meet an alternative consistent with the SMAQMD requirements. The Project does not propose natural gas space or water heating and it is anticipated that the solar required by Title 24- would be sufficient to offset the Project's natural gas use, which would come mainly from natural gas cooktops in the homes, and from BBQs.[7] It is estimated that approximately 3,133,278 kWh per year of solar energy production would be required to offset the natural gas usage (in cooktops and BBQs) by the Project, while approximately 3,619,113 kWh/year of on-site solar would be installed on Project rooftops. Furthermore, Mitigation Measure 3.7-1 requires Project proponents to confirm that natural gas use is offset prior to building permits, once the full design of the Project is known. In addition, Mitigation Measure 3.7-1 prohibits natural gas furnaces, water heaters, and clothing dryers to ensure that these Project features are enforceable through the Mitigation Monitoring and Reporting Program. In addition, the 2022 Building Code requires the Project to include all prewiring necessary so that the building would be ready to be all electric should a future homeowner choose to not have a gas range. With Mitigation Measure 3.7-1, the Project would be consistent with BMP 1.

The Project would be consistent with BMP 2 with implementation of Mitigation Measure 3.7-2. Mitigation Measure 3.7-2 would ensure that the Project would be electric vehicle ready, consistent with the requirements provided by SMAQMD in their *Greenhouse Gas Thresholds for Sacramento County* (June 2020). Specifically, the Project would be required to be consistent with the CalGreen Tier 2 Standards, and all EV Capable spaces would be EV Ready, as provided under Mitigation Measure 3.7-2.[8] As described in Appendix B of the SMAQMD's Greenhouse Gas Thresholds for

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[7] Based on specification sheets provided by the applicant and other publicly available information, the total annual natural gas usage of the Project is estimated at 2,624,089 kBTU/year, which would require an electricity offset of approximately 3,133,278 kwh/year to fully offset the GHG emissions from the Project natural gas usage. Since the project would install approximately 3,619,113 kWh/year of on-site solar, the on-site solar would more than fully offset the GHG emissions associated with the natural gas.

[8] EV Ready spaces require the installation of dedicated branch circuit(s), circuit breakers, and other electrical components, including a receptacle or blank cover needed to support future installation of one or more charging stations.

Sacramento County (June 2020) and defined by CalGreen, "EV Ready" spaces require the installation of dedicated branch circuit(s), circuit breakers, and other electrical components, including a receptacle or blank cover needed to support future installation of one or more charging stations.

With regard to Tier 2, BMP 3 requires the Project to achieve the requisite 15% reduction in VMT per resident compared to the existing average VMT per capita, as described in greater detail in Section 3.13: Transportation and Circulation. As shown in Section 3.13: Transportation and Circulation, under Existing Conditions, the proposed Project would generate an estimated average of 99.5 home-based VMT per single family household (3.7 percent below the city-wide average), and 77.7 home-based VMT per multi-family household (0.6 percent below the city-wide average). Under Cumulative Conditions, the proposed Project would generate an estimated average of 94.8 home-based VMT per single family household (5.2 percent below the Cumulative city-wide average), and 73.9 home-based VMT per multi-family household (1 percent above the Cumulative city-wide average). Further detail is provided in Section 3.13: Transportation and Circulation of this Draft EIR.

CONCLUSION

The evaluation of Project specific GHG emissions was performed under the modeling scenarios for Year 2025 and Year 2028, as well as 2030. The modeling showed that GHG emissions associated with the proposed Project would be above the target levels established for the Project in 2028 and 2030.

To reduce GHG emissions, mitigation strategies have been developed either for the Project as a whole, or for the individual components of the overall Project. Mitigation Measure 3.7-1 would require the Project to offset any natural gas use with onsite solar. Mitigation Measure 3.7-2 requires the Project to meet the CalGreen Tier 2 standards as identified in the SMAQMD's *Greenhouse Gas Thresholds for Sacramento County* (June 2020), except that all "EV Capable" spaces shall be "EV Ready", consistent with the requirements of BMP 2 of Tier 1 of the SMAQMD's greenhouse gas thresholds. Mitigation Measure 3.7-3 provides additional measures to reduce Project emissions the maximum extent feasible. Even with implementation of Mitigation Measures 3.7.1 through 3.7-3, the Project's GHG emissions from mobile sources would cause the Project to exceed the applicable service population threshold and the requirement under the SMAQMD threshold to reduce residential VMT by 15% from the regional average.

The three required mitigation measures include two different categories of measures as described in CalEEMod User Guide. "Quantitative" measure includes those measures that when implemented have a measurable reduction in emissions as reflected in the model outputs, or with separate outside the model calculations. Examples would be the addition of solar panels, where it is feasible to quantify the electrical production. "Qualitative or Supporting Measures" includes those measures that are not currently quantified by CalEEMod. The CalEEMod User Guide notes that methods for quantifying these measures have not yet been developed, are not fully supported by available research, or require specific details that are difficult to address under a methodology with general applicability. Although not quantitatively evaluated, qualitative or supporting measures may achieve emissions reductions and co-benefits on their own or may enhance the ability of quantified measures to attain expanded reductions and co-benefits. User-selected qualitative or supporting measures are noted in the CalEEMod output report but are not quantified. The quantified measures in the three mitigation measures, in conjunction with Project features discussed above, are anticipated to reduce GHG emissions by approximately 1,433 MT CO2e/year. It is anticipated that the Qualitative or Supporting Measures would provide additional, or co-benefits toward reducing GHG emissions.

Even with the three mitigation measures, the Project would exceed the service population target by 0.18 MT CO2e/year in 2028, 0.48 MT CO2e/year in 2030. The Project also would exceed the SMAQMD's requirement to meet the City's VMT threshold, as described above and in Section 3.13 of this EIR. There are no additional, feasible mitigation measures to reduce Project VMT, which is the main contributor to the Project's carbon emissions. Therefore, the impact related to whether the Project generates greenhouse gas emissions either directly or indirectly that may have a significant impact on the environment would remain ***significant and unavoidable***.

MITIGATION MEASURE(S)

Mitigation Measure 3.7-1: *Project applicants are prohibited from having natural gas water heaters, area heating, or clothing dryers, but are otherwise permitted to have natural gas in residential units for cooking and in community spaces. Any Project applicant whose application includes the installation of natural gas appliances or features shall provide a GHG offset analysis with its building permit application confirming that the GHG emissions related to the natural gas use would be offset by the installation of solar panels onsite.*

Mitigation Measure 3.7-2*: The Project applicants shall meet the CalGreen Tier 2 standards as identified in the SMAQMD's Greenhouse Gas Thresholds for Sacramento County (June 2020), except that all "EV Capable" spaces shall be "EV Ready," as defined by CalGreen, consistent with the requirements of BMP 2 of Tier 1 of the SMAQMD's greenhouse gas thresholds.*

Mitigation Measure 3.7-3*:*

a) ***Project-Specific Requirements****. The Project applicants shall be required to reduce Project GHG emissions to the maximum extent feasible by incorporating the following onsite measures in addition to implementing Mitigation Measures 3.7-1 and 3.7-2:*

  a) Construction Emissions. Prior to the issuance of grading permits, the Project sponsor or its designee shall provide evidence to the City of Manteca that the following strategies are implemented:

    i. Use electric or hybrid powered equipment for generators and other small pieces of equipment (e.g., forklifts and saws), as commercially available.

    ii. Use cleaner-fuel equipment such as replacing diesel fuel with compressed natural gas (CNG) or renewable diesel, as commercially available.

    iii. Reduce idling time of heavy-duty trucks either by shutting them off when not in use or reducing the time of idling to no more than 3 minutes (5-minute limit is required by the state airborne toxics control measure 13 CCR 2485).

Commercially available equipment is herein defined as equipment sourced within 50 vehicle miles of the Project site and within 10% of the cost of the diesel-fueled-equivalent equipment. The Project Applicant must contact at least 3 contractors or vendors within San Joaquin County and submit to the City justification if the specified equipment is not commercially available.

b) *Operational Emissions.*

  i. *Require Energy Efficient Appliances. Prior to the issuance of building permits, the Project sponsor or its designee shall provide evidence to the City that exclusively ENERGY STAR-certified appliances shall be installed, which exceed the energy efficiency of conventional appliances.*

  ii. *Outdoor Electrical Outlets. Prior to the issuance of building permits, the Project sponsor or its designee shall provide evidence to the City of Manteca that the design plans include electrical outlets in the front and rear of the structure to facilitate use of electrical lawn and garden equipment.*

  iii. *Tree Planting. Prior to the applicable certificates of occupancy, the Project sponsor or its designee shall plant, at a minimum, one tree per every new residential dwelling unit proposed. Tree species should be black or valley oak, or another broad leaf species with at least an equivalent carbon sequestration rate. The Project sponsor shall demonstrate that at least 75% of species planted are native to California or drought tolerant and appropriate for the climate zone region. These trees can be planted roadside, in medians, or in other commonly landscaped areas.*

  iv. *Water Use Efficiency and Water Conservation. Prior to the issuance of building permits, the Project sponsor or its designee shall provide evidence to the City that the residential building design plans include the following water use efficiency and conservation measures, including:*

   - *High-efficiency appliances/fixtures to reduce water use, and/or include water-efficient landscape design*
   - *Low-flow or high-efficiency water fixtures*
   - *Water-efficient landscapes with lower water demands than required by the California Department of Water Resources (DWR) 2015 Model Water Efficient Landscape Ordinance (MWELO)*
   - *Planting of drought-tolerant plant species only*
   - *Provide a copy of the educational materials that will be provided to future homeowners and tenants about water saving behaviors and water-conserving landscaping with sales material for City review.*
   - *Installation of piping to allow future use of reclaimed water for landscaping purposes in all park areas.*

  v. *Circulation. The Project sponsor or its designee shall include the following features to reduce VMT:*

   - *Install sidewalks and crosswalks where appropriate and consistent with City requirements.*

- *Install new or improved bicycle paths and bicycle racks at community destination locations such as parks and community recreation areas.*
- *Sales and rental packets shall include information about local public transit, including links to the ACE and Manteca Transit websites and a list of services that match riders and drivers for ridesharing and carpooling.*

In addition to the above, on-site measures, if additional to reductions accounted for in the CAP and/or CAP Update, the Project would provide the City with up to four EV charging stations at one or more City facilities based on the City's need and to the extent resulting in quantifiable reductions, which would further reduce GHG emissions.

b) ***Compliance with CAP Update**. While the CAP Update is currently being prepared, it is anticipated that the CAP Update will ultimately establish policies, programs, standards, and requirements for government, private industry, and the public to achieve the goals laid out in state law and the 2022 Scoping Plan. Once the CAP Update is adopted, the portions of the Project that would be subject to the requirements of the CAP Update would comply with applicable CAP Update measures.*

Impact 3.7-2: Project implementation could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Significant and Unavoidable).

CONSISTENCY WITH APPLICABLE PLANS, POLICIES, AND REGULATIONS

Consistency with the CARB's *Final 2022 Scoping Plan for Achieving Carbon Neutrality*: In accordance with AB 32, the CARB developed the first Scoping Plan in 2008 to outline the State's strategy to achieve 1990 level emissions by year 2020. In May 2014, the CARB released and adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals and evaluate the progress that has been made between 2000 and 2012. A newer version of the Scoping Plan was then adopted by the CARB in December 2017 (entitled *California's 2017 Climate Change Scoping Plan*). Lastly, the most recent version of the Scoping Plan was adopted by the CARB in November 2022 (entitled *Final 2022 Scoping Plan for Achieving Carbon Neutrality*), which was designed consistent with the long-term GHG reduction targets embedded in AB 1279. Since adoption of the 2008 Scoping Plan and the subsequent updates in 2014, 2017, and 2022, State agencies have adopted programs identified in the plan, and the Legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations, California Building Standards (e.g., CALGreen and the 2022 Building and Energy Efficiency Standards), zero carbon electricity by 2045, and changes in the corporate average fuel economy standards (e.g., Pavley I and California Advanced Clean Cars)).

The proposed Project's operational emissions would be reduced as regulations are implemented by the CARB and other State agencies to comply with the statewide GHG reduction targets. These statewide actions are anticipated to reduce operational GHG emissions even further below those identified in Table 3.7-11 through Table 3.7-13. For example, the proposed Project's transportation emissions would be expected to decline as vehicle efficiency standards are implemented beyond the Advanced Clean Cars II program and the Low Carbon Fuel Standard is strengthened. Furthermore, CalEEMod does not account for Governor Newsom's Zero-Emission by 2035 Executive Order (N-79-20) or CARB's subsequent regulations, which requires that all new cars and passenger trucks sold in California be zero-emission vehicles by 2035. This is anticipated to substantially reduce the operational emissions associated with passenger vehicles (i.e. mobile emissions) further, over time. Furthermore, the proposed Project would be required to comply with the latest (i.e., 2022) version of the Title 24 standards, which is more stringent than the 2019 Title 24 standards that are modeled in CalEEMod.[9] Therefore, proposed Project emissions would continue to decline beyond the buildout year due to regulations that would indirectly affect Project emissions. Moreover, the Title 24 standards are anticipated to be revised again in Year 2025[10], with even stricter energy efficiency and renewable energy requirements for new development, which help to ensure that new development is consistent with the State's GHG reduction goals.

The CARB's *Final 2022 Scoping Plan for Achieving Carbon Neutrality* (the latest version of the Scoping Plan) provides policies that are considered needed to meet the State's mid-term and long-term GHG emissions reduction targets. Specifically, the CARB's *Final 2022 Scoping Plan for Achieving Carbon Neutrality* identifies that it "…lays out the sector-by-sector roadmap for California, the world's fifth largest economy, to achieve carbon neutrality by 2045 or earlier…". The Scoping Plan addresses recent legislation and direction from Governor Newsom, by extending and expanding upon the earlier Scoping Plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, and adding carbon neutrality as a science-based guide and touchstone for California's climate work. The Scoping Plan is therefore consistent with the AB 1279 GHG reduction targets of achieving carbon neutrality by 2045, and reducing anthropogenic emissions to 85 percent below 1990 levels by 2045.

Therefore, recognizing the CARB as an authoritative substantial evidence source in evaluating post-2020 GHG impacts, this analysis evaluates whether buildout of the proposed Project would interfere with the main programs the CARB has identified to support its conclusions that the State is on a trajectory to meet the 2045 GHG target.

Appendix D to the CARB's *Final 2022 Scoping Plan for Achieving Carbon Neutrality* provides a table (Table 3) of key residential and mixed-use project attributes that reduce GHGs, which are analyzed in comparison the Project's attributes in Table 3.7-14 below. Specifically, Appendix D of the 2022 Scoping Plan states that:

> *"These project attributes are intended as a guide to help local jurisdictions qualitatively identify those residential and mixed-use projects that are clearly consistent with the State's*

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[9] Since the latest version of CalEEMod (v.2022.1) only accounts for the energy efficiency requirements associated with the 2019 version of Title 24, and since there is no well-established methodology for quantifying the reductions in energy consumption associated with the 2022 version of Title 24 over the 2019 version of Title 24, the CalEEMod modeling does not account for the energy efficiency improvements that would be associated with the 2022 (or future, more stringent) versions of Title 24.

[10] See: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2025-building-energy-efficiency

climate goals, since these attributes address the largest sources of operational emissions for residential projects. In general, residential and mixed-use development projects that incorporate all of these key project attributes are aligned with the State's priority GHG reduction strategies for local climate action…and with the State's climate and housing goals. As such, they are considered to be consistent with the Scoping Plan or other plans, policies, or regulations adopted for the purposes of reducing GHGs; therefore, the GHG emissions associated with such projects may result in a less-than-significant GHG impact under CEQA. Lead agencies may determine, with adequate additional supporting evidence, that projects that incorporate some, but not all, of the key project attributes are consistent with the State's climate goals."

Table 3.7-14, below, provides an analysis of the Project's consistency with these attributes.

TABLE 3.7-14: PROJECT CONSISTENCY WITH TABLE 3 OF APPENDIX D OF THE 2022 SCOPING PLAN

PRIORITY AREAS	*KEY PROJECT ATTRIBUTE*	*CONSISTENCY ANALYSIS*
Transportation Electrification	Provides EV charging infrastructure that, at minimum, meets the most ambitious voluntary standard in the California Green Building Standards Code at the time of project approval.	Consistent. Pursuant to Mitigation Measure 3.7-2, the Project would implement EV charging infrastructure that meets the requirements of the California Cal Green Tier 2, which is the most ambitious voluntary standard in Cal Green at this time.
VMT Reduction	Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).	Inconsistent. The Project is located in an undeveloped area designated for development as proposed under the recently approved Manteca General Plan Update. The Project is surrounded to the south and west by other residential communities that the Project would connect with via extensive pedestrian and bicycle pathways, as well as via roadways, utilities, and other public services, but is not an infill site.
	Does not result in the loss or conversion of natural and working lands.	Inconsistent. The proposed Project would result in the loss of agricultural land but this loss has been planned under the City's General Plan. Therefore, although the proposed Project would not comply with this measure it is consistent with meeting the City's housing needs.
	Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre), or: Is in proximity to existing transit stops (within a half mile), or: Satisfies more detailed and stringent criteria specified in the region's SCS.	Inconsistent. The majority of the proposed Project would not consist of transit-supportive densities (minimum of 20 residential dwelling units per acre), and is not within a half mile of existing transit stops.
	Reduces parking requirements, by: Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or Providing residential parking supply at a ratio of less than one parking space	Inconsistent. It is anticipated that each residence would have a two-car garage and the apartments would be parked to meet City code. Reducing parking requirements would not reduce VMT in this location, however, because there is amble, free street parking.

	per dwelling unit; or For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	
	At least 20 percent of units included are affordable to lower-income residents.	Inconsistent. The Project is not anticipated to specifically include development of low-income units but due to its location is more affordable than housing in other, relatively nearby areas.
	Results in no net loss of existing affordable units	Consistent. The Project would not result in the net loss of existing affordable units. As such, the proposed project would comply with this measure.
Building Decarbonization	Uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking.	Inconsistent. Although the 2022 Scoping Plan anticipates that beginning in 2026 residential development would be required to use all electric-appliances only, recent case law from the Ninth Circuit (*California Restaurant Association v. City of Berkeley (9th Cir. 2023) 65 F.4th 1045)*.related to preemption under the Energy Policy and Conservation Act raises doubts about whether the state or any local jurisdiction can ban natural gas connections or natural gas appliances. Further, the project proposes to permit natural gas ranges as long as the natural gas carbon emissions are offset through onsite solar.

SOURCE: THE CARB, 2022 SCOPING PLAN, APPENDIX D, TABLE 3.

As shown in Table 3.7-14, based on proposed Project attributes, many of the key project attributes identified by the CARB cannot be guaranteed to be implemented due to the Project's location in a growing (rather than built out) City. Appendix D notes that for projects that do not meet the criteria shown in Table 3.7-14, they can nevertheless be consistent with the Scoping Plan if they would either be net zero or would comply with an air district threshold addressing SB 32. As discussed above, Mitigation Measure 3.7-1 requires the Project's homes to offset carbon emissions related to their natural gas use through onsite solar. With this mitigation measure and the requirement for all electricity supplied by PG&E to be carbon neutral by 2045, the residential units would support the State's goal of carbon neutrality. Nevertheless, due to the uncertainty of the level of electric vehicle penetration, the Project would not necessarily be net zero, even with mitigation, by 2045. In addition, due to its VMT, the Project would not be consistent with the SMAQMD threshold, which addresses SB 32.

Electrification of the Vehicle Fleet: The proposed Project would benefit from the electrification of the vehicle fleet that would occur by the assumed Project buildout year of 2028 and over the life of the Project. Based on estimates provided by the CEC, 5 million zero-emission electric vehicles will be needed by 2030 to meet the State's goal of reducing GHG emissions by 40% below 1990 levels, and 8 million zero emission vehicles are anticipated to be needed by 2030 to meet the requirements embedded in Executive Order N-79-20.[11] Such levels of zero-emission electric vehicles would greatly

[11] See Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment: Analyzing Charging Needs to Support Zero-Emission Vehicles in 2030. Available at:

exceed the 4.94% as estimated by EMFAC2021, which suggests that the current projections embedded in EMFAC2021 are likely an underestimate.[12] Nevertheless, it can be reasonably projected that a substantial reduction in GHGs associated with the electrification of the vehicle fleet by Project operational year would occur, beyond what has been modeled within this EIR.

More Stringent Title 24 Standards: The proposed Project would be required to comply with the latest (i.e. 2022) version of the Title 24 standards, which are more stringent than the 2019 Title 24 standards that are modeled in CalEEMod.[13] Therefore, proposed Project emissions would continue to decline beyond the buildout year due to regulations that would indirectly affect Project emissions. Moreover, the Title 24 standards are anticipated to be revised again in Year 2025, with even stricter energy efficiency and renewable energy requirements for new development, which help to ensure that new development is consistent with the State's GHG reduction goals, consistent with the Scoping Plan.[14] These improvements to the Title 24 standards will be reflected in per capita GHG emission reductions at the Project buildout.

Summary: Over time, as EV penetration increases and transit improves, VMT will be reduced. Here, there is substantial evidence to support a finding that emissions from mobile sources will decrease by 2045, consistent with the Scoping Plan. First, the Project would have EV-ready parking spaces, making it easy for future owners to charge EV vehicles, encouraging the purchase of such vehicles. Second, the state is committed to improving EV infrastructure and the sale of gas-powered vehicles must cease in 2035, suggesting that by 2045 most state residents would own EVs. Third, Altamont Corridor Express (ACE) is extending service to Manteca, with a downtown station planned to open in 2026. Amtrak also is planning service upgrades. ACE will begin with a focus on Bay Area commuters, and Amtrak could eventually provide all-day service with trains traveling at up to 130 mph. Faster and more convenient rail service should increase the number of Manteca residents who choose to commute by train rather than car and decrease VMT. In addition, Mitigation Measures 3.13-1 and 3.7-3 require the Project to implement TDM measures to reduce VMT. Therefore, even though the Project is not consistent with all of the local guidance in the Scoping Plan, sufficient evidence exists to conclude that the Project would not impede the State from reaching its climate goals.

Nevertheless, out of an abundance of caution, this EIR concludes that because the Project is inconsistent with several attributes CARB suggests projects should include, impacts would be **significant and unavoidable** as related to the Scoping Plan.

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https://www.energy.ca.gov/publications/2020/assembly-bill-2127-electric-vehicle-charging-infrastructure-assessment-analyzing

[12] According to the San Francisco Chronical, the sale of EVs currently (2023) account for 21 percent of vehicles sold in California. For detail: https://www.sfchronicle.com/projects/2023/ev-tracker-california/.

[13] Since the latest version of CalEEMod (v.2022.1) only accounts for the energy efficiency requirements associated with the 2019 version of Title 24, and since there is no well-established methodology for quantifying the reductions in energy consumption associated with the 2022 version of Title 24 over the 2019 version of Title 24, the CalEEMod modeling does not account for the energy efficiency improvements that would be associated with the 2022 (or future, more stringent) versions of Title 24.

[14] See: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2025-building-energy-efficiency

Consistency with the City of Manteca adopted Climate Action Plan: The City of Manteca adopted its Climate Action Plan (CAP) in October 2013. The GHG Plan is considered a "Qualified Plan," according to CEQA Guidelines Section 15183.5.2. The City's GHG Inventory is evaluated for baselines years 2005 and 2010 and is projected for years 2020 and 2035. The baseline and Business-As-Usual (BAU) emissions GHG inventories for the City of Manteca is summarized in Table 3.7-1. Table 3.7-2 provides a summary of the City's 2020 target, adjusted-BAU emissions, and the local reductions included within the CAP. The proposed Project would not conflict with the City of Manteca Climate Action Plan. For example, the proposed Project would be consistent with the emissions target of 4.91 MT CO_2e/SP/year in 2020, identified within the CAP to comply with the requirements of AB 32. Furthermore, more specifically, the Project would comply with the applicable GHG reduction strategies identified in the CAP, such as CAP Strategy POD-1, which requires that, during the review of subdivision maps and site plans, the City must ensure that Project designs provide internal and external pedestrian connections where appropriate; CAP Strategy POD-4, which requires the City to require new subdivisions to provide pedestrian direct access points to frequently visited destinations adjacent to or within walking distance from the Project; CAP Strategy PI-1, which requires the City to ensure that all projects comply with the General Plan policies regarding pedestrian infrastructure during the development review process; CAP Strategy SG-1, which encourages development projects to provide solar power as part of their strategy to reduce greenhouse gas emissions[15]; and CAP Strategy WC-1, which requires the City to continue to implement water conservation measures to comply with the Model Water Efficient Landscape requirements that implement the Water Conservation in Landscaping Act of 2006.

In addition, for new development projects constructed in the City of Manteca, the CAP requires the development projects to achieve GHG emissions reductions by implementing specific reduction strategies. The proposed Project's consistency with the reduction strategies in the CAP is assessed in Table 3.7-15 below. As shown below, the proposed Project would comply with all applicable measures presented within the CAP and, therefore, would not conflict with the goals established by AB 32.

TABLE 3.7-15: PROJECT CONSISTENCY WITH THE CITY OF MANTECA CAP

CAP STRATEGY	*CONSISTENCY DISCUSSION*
Comply with the applicable land use, sustainable development, and resource conservation policies of the Manteca General Plan.	Consistent. The residential development associated with the Project would be a consistent land use with the Manteca General Plan Update land use designations, and with the land use types and development intensity to the south and west. As noted throughout this EIR, the Project would be required to comply with applicable General Plan policies. Based on the above, the proposed Project would comply with this measure. Please refer to Chapter 3.10, Land Use, Population, and Housing, and, specifically, Table 3.10-3 of this EIR for a more thorough evaluation of project compliance with applicable policies.
Construct Project transportation infrastructure that supports walking, bicycling, and transit use.	Consistent. All interior roadways included as part of the proposed Project would provide pedestrian and cycling infrastructure. Specifically, the Project would develop 10.66 acres of neighborhood park, park/basin and open space and 3.45 acres of the continuation of the Tide Water Bike Trail. The Project objectives also include the installation of new public roadways that will provide pedestrian and vehicular access to the Project

[15] The Project would install approximately 3,619,113 kWh of on-site solar.

	site and surrounding community areas, and other improvements, including water supply, storm drainage, sewer facilities and landscaping. After dedication to the City, the parks, parkways, and recreation facilities will be under the jurisdiction of the City, and will be operated and maintained by the City for the enjoyment of the residents of Manteca. Maintenance will be funded through a community facilities district. As such, the proposed Project would comply with this measure.
Implement Transportation Demand Management (TDM) programs in projects with large numbers of employees.	Not Applicable. According to the CAP, the SJVAPCD has adopted Rule 9410, Employer Based Trip Reduction, which requires employers with over 100 employees to implement trip reduction programs. Considering the proposed residential development would not involve the employment of 100 or more employees, this measure does not apply to the proposed Project.
Design and construct Project buildings to exceed Title 24 Energy Efficiency Standards by at least 10 percent.	Consistent. The City of Manteca CAP was adopted in 2013 and, thus, the applicable Title 24 standards at the time of adoption were the 2010 Energy Efficiency Standards. The current 2022 Energy Efficiency Standards are greater than 10 percent more efficient than the 2010 standards. However, this CAP Strategy does not require that projects exceed the 2010 standards by ten percent but, rather, specifies that projects are required to exceed the currently applicable standards by 10 percent. However, the CAP specifies that projects that cannot meet the reduction level may provide solar panels or other non-building-related energy efficiency measures such as exterior lighting or water savings. The proposed Project would install on-site solar PV consistent with the requirements of the 2022 Energy Efficiency Standards. The proposed Project would install a total of approximately 3,619,113 kWh per year of on-site solar. As such, the proposed Project would comply with this measure.
Implement Project buildings including water conservation measures that meet or exceed the California Green Building Code standards 20 percent requirement.	Consistent. The proposed Project would be required to meet the water efficiency regulations within the current CALGreen Code, which exceed those required in the 2010 Building Code. As such, the proposed Project would comply with this measure.
Install Project landscaping that meets or exceeds water conservation standards of the City's adopted landscaping ordinance 20 percent reduction requirement.	Consistent. Landscaping within the Project site would be required to comply with the CALGreen Code and all water efficiency measures therein, including the Model Water Efficient Landscape Ordinance (MWELO). In addition, the Project would be required to comply with the adopted water conservation standards set forth in Chapter 17.48 of the City's Municipal Code. As such, the proposed Project would comply with this measure.
Develop programs to exceed state recycling and diversion targets by at least 10 percent.	Not Applicable. This measure is aimed at the City. However, pursuant to Municipal Code Section 13.02.120, all construction materials associated with the proposed Project shall be recycled. The City of Manteca offers a free commercial recycling pickup service which would be available to the proposed project during operations.

SOURCE: CITY OF MANTECA, CLIMATE ACTION PLAN. OCTOBER 15, 2013.

City of Manteca Climate Action Plan Update: The current Climate Action Plan (CAP) has been successful in outlining a course of action for the City to reduce per capita GHGs by amounts required to show consistency with AB 32 goals for 2020. The City's GHG Inventory is evaluated for baselines years 2005 and 2010 and is projected for years 2020 and 2035. The CAP is considered a "Qualified Plan," according to CEQA Guidelines Section 15183.5.2.

The City is currently in the process of updating the CAP, which is intended to replace the currently adopted CAP. It is expected that the horizon years will extend out farther to at least 2045, and the GHG inventory will be updated to reflect improvements in vehicle fleets, fuel efficiencies, building standards, etc. The CAP update is also expected to establish policies, programs, standards, and requirements for government, private industry, and the public to achieve the goals laid out in state law and the 2022 Scoping Plan.

Once the CAP is adopted, it is the expectation that all new development would be subject to the requirements of the CAP to ensure that the City continues to move toward consistency with state law and the 2022 Scoping Plan by reducing GHG emissions.

The Project is consistent with the CAP, resulting in a **less than significant impact** related to CAP consistency.

Consistency with the SJCOG's 2022 RTP/SCS: The SJCOG's 2022 RTP/SCS includes eight policies with corresponding implementation strategies for conserving energy, maximizing mobility and accessibility, increasing safety and security, preserving the transportation system, supporting economic development, promoting interagency cooperation and public participation, maximizing cost effectiveness, and improving quality of life for residents. These strategies include similar measures to the 2022 Scoping Plan, such as supporting energy and water efficiency. The Project's consistency with the applicable 2022 RTP/SCS strategies is discussed in Table 3.7-16, below. As shown therein, the Project would be consistent with the GHG emissions reduction strategies contained in the SJCOG's 2022 RTP/SCS, resulting in a **less than significant impact**.

TABLE 3.7-16: PROJECT CONSISTENCY WITH THE SJCOG'S 2022 RTP/SCS

POLICY	*PROJECT CONSISTENCY*
Enhance the Environment for Existing and Future Generations and Conserve Energy	No Conflict. The Project would utilize electricity provided by Pacific Gas & Electric (PG&E) which is required to meet the future year renewable portfolio performance standards. In addition, future development associated with Project implementation would be required to meet the applicable requirements of the 2022 (or more current) Title 24 Building Energy Efficiency Standards.
Maximize Mobility and Accessibility	No Conflict. The Project would support the use of zero-emission and low-emission vehicles, by implementing EV-ready charging spaces, consistent with the requirements of the 2022 Title 24 Building Energy Efficiency Standards and CalGreen Tier 2 requirements. In addition, although this Project is not a transportation improvement project, the Project is located near existing transit routes and in a city where regional transit improvements are planned.
Increase Safety and Security	No Conflict. The Project would be developed using the latest State and local requirements relating to safety and security. Development of the Project site would include other uses to support and complement the proposed residential development include public utility infrastructure, public and private roadways, curb/gutters/sidewalks, other pedestrian facilities, private parking, street lighting, and street signage, which would enhance the safety and security of the site and it surroundings, by connecting to existing development.
Preserve the Efficiency of the Existing Transportation System	Not applicable. This is not a transportation improvement project and is therefore not applicable. The Project would not interfere with the efficiency of any existing transportation system.
Support Economic Vitality	No Conflict. The State of California is currently in a housing crisis. The proposed Project will provide a variety of housing types and lot sizes that will accommodate a range of housing objectives and buyer needs with a goal to ensure housing for a variety of families and lifestyles. The Project would bring new housing to the City of Manteca and the broader

	region, by establishing a mixture of housing types, sizes and densities that collectively provide for local and regional housing demand, consistent with City requirements as stated in the latest Regional Housing Needs Analysis (RHNA), and by providing infrastructure that meets City standards and is integrated with existing and planned facilities and connections.
Promote Interagency Coordination and Public Participation for Transportation Decision-Making and Planning Efforts	Not applicable. This is not a transportation planning or improvement project and is therefore not applicable.
Maximize the Cost Effectiveness	No Conflict. The housing development associated with the Project will occur dependent on market conditions and demand. The plan for infrastructure allows for development to occur in phases to respond to the market conditions and demand.
Improve the Quality of Life for Residents	No Conflict. The proposed Project will provide a variety of housing types and lot sizes that will accommodate a range of housing objectives and buyer needs with a goal to ensure housing for a variety of families and lifestyles. In addition, the proposed Project includes the development of park, open space, and trail totaling 14.55 acres, including 10.66 acres of neighborhood park, park/basin and open space and 3.45 acres of the continuation of the Tide Water Bike Trail. These park and trail connections would improve the quality of life for nearby residents.

SOURCE: SJCOG 2022 RTP/SCS

Consistency with the SJVAPCD Requirements: The proposed Project would be required to comply with all applicable SJVAPCD (i.e., Air District) Rules and regulations. For example, Regulations and rules that may apply to the proposed Project could include Regulation VIII provides fugitive PM_{10} dust prohibitions; Rule 8021 provides rules for PM_{10} dust prohibition associated with construction, demolition activities, excavation, extraction, and other earthmoving activities; Rule 4601 provides rules to limit VOC emissions for architectural coatings. Moreover, the proposed Project would be required to comply with SJVAPCD Rule 9510, as described in further detail below. In sum, the proposed Project would comply with all applicable SJVAPCD Rules and regulations and as to such rules and regulations, impacts are **less than significant**.

SJVAPCD's Rule 9510: In accordance with the SJVAPCD's Rule 9510, an Air Impact Assessment (AIA) is required to be prepared for the proposed Project based on the applicability and exemption criteria of the rule.[16] The rule includes general mitigation requirements for construction and/or operational emissions. Per the general mitigation requirements of Rule 9510, the Project would be required to reduce the Project's operational baseline NOx emissions 33.3%, and the Project's operational baseline PM_{10} emissions 50%, over a period of ten years as quantified in the approved AIA. Although the purpose of Rule 9510 is to reduce NOx and PM_{10} emissions, rather than GHG emissions, it should be noted that these reductions are enforced through on- and off-site measures, many of which would also reduce GHG emissions. For example, according to the SJVAPCD's most recent Indirect Source Review Program annual report (*the Indirect Source Review Program 2022 Annual Report, July 1, 2021 to June 30, 2022*), during the reporting period (July 1, 2021 through June 30, 2022), the District spent ISR monies to fund clean-air emission reduction projects, including off-site projects such as the replacement of older, higher-emitting agricultural tractors with new latest-tier tractors,

[16] Available at: https://www.valleyair.org/rules/currntrules/r9510-a.pdf. Accessed: September 2022.

replacement of older, higher-emitting agricultural irrigation water pump engines with electric motors, retrofitting of residential open-hearth fireplaces with certified natural gas burning inserts, and a dairy feed mixer electrification project. Total off-site emission reductions alone for the reporting period totaled 50 tons of NOx and 86 tons of PM_{10}, for a paid-out total of $3,458,048, and a cost effectiveness of $25,438/ton.[17]

These off-site emission reductions have the ancillary benefit of reducing GHG emissions, beyond what has been modeled herein. For example, the reduction in carbon intensity of natural gas burning inserts compared with open-hearth fireplaces is improved by 39.7%, according to data from Appendix G of the latest version of the CalEEMod v2022.1 Guidebook.[18] Separately, as another example, for off-site mitigation that would occur due to the replacement of older, higher-emitting agricultural tractors with new latest-tier tractors, the greenhouse gas intensity of the new latest-tier tractors compared to older, higher-emitting tractors by approximately 33-80%, according to the U.S EPA, by increasing the fuel economy of tractor trailers from approximately 5-6 mpg to 8-9 mpg in 2027.[19] Although such reductions in GHGs will be attributed to the proposed Project through the Rule 9510 ISR, these reductions are not reflected in the Project GHG modeling estimates included herein, except that the modeling estimates do reflect that fact that the Project does not include any open-hearth fireplaces. It is notable, however, that the GHG reductions are projected to be substantial and are in alignment with the goals of the 2022 Scoping Plan.

CONCLUSION

Overall, the proposed Project generally does not conflict with, and is consistent with, applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of greenhouse gases. Specifically, the Project is generally consistent with the State's long-term climate goals and strategies with the exception of reducing VMT. The analysis includes an assessment of the Project's consistency with the CARB's 2022 Scoping Plan, Air District requirements, and the City of Manteca CAP. This assessment includes a consistency analysis with regulations or requirements adopted to reduce greenhouse gas emissions, and also evaluates Project specific GHG emissions and the extent to which they are able to be reduced by effective mitigation strategies including Project design features, best performance measures, and mitigation measures.

For the reasons discussed above, this EIR concludes out of an abundance of caution that the impact related to consistency with the Scoping Plan is **significant and unavoidable**. Nevertheless, the Project's carbon reduction features and mitigation measures make the Project consistent with the CAP, 2022 RTP/SCS, and SJAPCD policies and regulations, and impacts associated with these plans, policies and regulations are **less than significant**.

[17] See the SJVAPCD's Indirect Source Review Rule Annual Report (2022) for more detail: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview/isr-annual-report/

[18] See Table G-23 of the CalEEMod v2022.1 Appendix (Appendix G) for detail.

[19] See page 677 of the *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Phase 2 (Response to Comments for Joint Rulemaking)* for detail: https://www.nhtsa.gov/sites/nhtsa.gov/files/phase2-hd-fuel-efficiency-ghg-response-to-comments.pdf

Impact 3.7-3: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources. (Less than Significant)

The CEQA Guidelines require consideration of the potentially significant energy implications of a Project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed Project would be considered "wasteful, inefficient, and unnecessary" if it were to violate State and federal energy standards and/or result in significant adverse impacts related to Project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The amount of energy used by the proposed Project during operation would directly correlate primarily with the amount of energy used by Project buildings and outdoor lighting, and the generation of vehicle trips associated with the proposed Project. Other Project energy uses include fuel used by vehicle trips generated during Project construction and operation, fuel used by off-road construction vehicles during construction activities, and fuel used by Project maintenance activities during Project operation. The following discussion provides a detailed calculation of energy usage expected for the proposed Project, as provided by applicable modeling software (i.e., CalEEMod v2022.1 and the CARB EMFAC2021). Additional assumptions and calculations are provided within Appendix B of this EIR.

ELECTRICITY AND NATURAL GAS (CONSTRUCTION AND OPERATION)

Operation. Electricity used by the proposed Project would be used primarily used for heating, cooling, and lighting in the proposed 715 single-family and 200 multi-family homes. Natural gas may be used for cooking facilities and in community spaces. Additionally, electricity will be used for lighting in the public facilities (parks and roadways). As shown in the following tables, "Energy" is one of the categories that was modeled for GHG emissions. Total electricity required from the electricity grid during Project operation is anticipated to be approximately 3,388,084 kilowatt-hours (kWh) per year, and total natural gas during Project operation is anticipated to be 2,624,089 thousand British thermal units (kBTU) per year, as provided in further detail in Appendix B. For comparison, in 2021, all residential uses in San Joaquin County used 2,125.381 million kWh of electricity and 90.181 million therms of natural gas[20] [21]

The proposed Project is anticipated to implement renewable energy features. In particular, the proposed Project would be required to implement on-site solar, consistent with the most recent (2022) Title 24 standards. The 2022 Title 24 standards require single-family homes and low-rise

[20] https://ecdms.energy.ca.gov/elecbycounty.aspx
[21] https://ecdms.energy.ca.gov/gasbycounty.aspx

multi-family projects to install solar photovoltaic (PV) systems and be "battery-ready", by installing either a subpanel or a split-bus main panel with four backed-up circuits.[22] According to the Project developers, the proposed Project would install a total of approximately 3,619,113 kWh per year of on-site solar PV. This is a requirement as part of the 2022 Title 24 standards. However, it should be noted that additional on-site solar PV could be installed, especially in the case that stricter Title 24 standards come into effect prior to portions of Project development or as may be required to offset natural gas usage pursuant to Mitigation Measure 3.7-1.

Separately, The 2022 Title 24 standard requires that the number of electric vehicle (EV) charging spaces depends on the building type and total number of parking spaces on-site, and Mitigation Measure 3.7-2 requires "EV Ready" spaces. Similarly, such requirements would be anticipated to further reduce energy consumption beyond what is modeled herein.

Further, Mitigation Measures 3.7-1 and 3.7-3 require the Project developers to install 100% Energy Star appliances, install electric heaters in place of natural gas furnaces, install low-flow and/or high-efficiency water fixtures, and install drought-tolerant landscaping. With these features and mitigation measures, Project operations would not use energy in an inefficient, wasteful, or unnecessary way.

Construction. Temporary electric power for as-necessary lighting and electronic equipment, such as computers inside temporary construction trailers, and water for dust control would be provided by PG&E. The electricity used for such activities would be temporary, would be substantially less than that required for Project operation, and would therefore have a negligible contribution to the Project's overall energy consumption. Natural gas is not anticipated to be required during construction of the Project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the "on-road and off-road vehicles" subsections. Any minor amounts of natural gas that may be consumed as a result of Project construction would be substantially less than that required for Project operation and would have a negligible contribution to the Project's overall energy consumption.

ON-ROAD VEHICLES (CONSTRUCTION)

The proposed Project would generate on-road vehicle trips during Project construction (from construction workers and vendors travelling to and from the Project site). De Novo Planning Group estimated the vehicle fuel consumed during these trips based the assumed construction schedule, vehicle trip lengths and number of workers per construction phase as provided by CalEEMod, and Year 2023 gasoline and diesel MPG factors provided by EMFAC2021 (year 2023 factors were used to represent a conservative analysis, as the energy efficiency of construction activities is anticipated to improve over time). For the sake of simplicity, it was assumed that all construction worker light duty passenger cars and truck trips use gasoline as a fuel source, and all medium and heavy-duty vendor trucks use diesel fuel. Table 3.7-17, below, describes gasoline and diesel fuel consumed during each construction phase (in aggregate for both on-road and off-road vehicles). As shown, the vast majority of on-road mobile vehicle fuel used during the construction of the proposed Project would occur during the building construction phase.

[22] See: https://calsolarinc.com/news/title-24-california/

The State's ACT rule requires a phase-in of electric heavy-duty vehicles but Project construction is anticipated to occur prior to most construction equipment companies needing to purchase electric equipment. Currently, such equipment is rare and it would be speculative to assume availability for Project construction. See Appendix B of this EIR for a detailed accounting of construction on-road vehicle fuel use estimates.

TABLE 3.7-17: ON-ROAD MOBILE FUEL GENERATED BY PROJECT CONSTRUCTION ACTIVITIES – BY PHASE

Construction Phase	*# of Days*	*Total Daily Worker Trips(A)*	*Total Daily Vendor Trips(A)*	*Total Hauler Worker Trips(A)*	*Total Gallons of Gasoline Fuel(B)*	*Total Gallons of Diesel Fuel(B)*
Demolition	10	15	0	0	**68**	**0**
Site Preparation	60	18	0	0	**493**	**0**
Grading	61	20	0	0	**557**	**0**
Building Construction	599	20	98	0	**5,479**	**4,913**
Paving	100	15	0	0	**684**	**0**
Architectural Coatings	100	4	0	0	**183**	**0**
Total	**N/A**	**N/A**	**N/A**	**N/A**	**7,464**	**4,913**

NOTE: (A) PROVIDED BY CALEEMOD OUTPUT. (B)SEE APPENDIX B OF THIS EIR FOR FURTHER DETAIL

SOURCE: CALEEMOD (V.2022.1); EMFAC2021.

OFF-ROAD VEHICLES (CONSTRUCTION)

Off-road construction vehicles would use diesel fuel during the construction phase of the proposed Project. A non-exhaustive list of off-road constructive vehicles expected to be used during the construction phase of the proposed Project includes: forklifts, generator sets, tractors, excavators, and dozers. Based on the total amount of CO_2 emissions expected to be generated by the proposed Project (as provided by the CalEEMod output), and standard conversion factors (as provided by the U.S. Energy Information Administration), the proposed Project would use a total of approximately 33,798 gallons of diesel fuel for off-road construction vehicles. Detailed calculations are provided in Appendix B of this EIR.

On-road and off-road construction equipment would meet all applicable state standards and would be properly maintained. Further, idling would be limited to three minutes under Mitigation Measure 3.7-3, which would prevent wasteful fuel use and construction equipment also would comply with waste reduction requirements. Further, the petroleum consumed related to Project construction would be typical of construction projects of similar types and sizes and would not necessitate new petroleum resources beyond what are typically consumed in California. Therefore, because petroleum use during construction would be temporary and relatively minimal, and would not be wasteful or inefficient, impacts would be less than significant.

ON-ROAD VEHICLES (OPERATION)

The proposed Project would generate vehicle trips during its operational phase. A description of Project operational on-road mobile energy usage is provided below.

According to the Traffic Study prepared for the proposed Project (Fehr & Peers, 2022), and as described in more detail in Section 3.13 of this EIR, the Project would increase automobile VMT by approximately 8,090 new daily trips, and approximately 86,683 daily VMT. In order to calculate operational on-road vehicle energy usage and emissions, De Novo Planning Group used fleet mix data from the CalEEMod (v2022.1) output for the proposed Project, Year 2028 gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2021, weighted average MPG factors for gasoline and diesel were derived. Therefore, upon full buildout, the proposed Project would generate operational vehicle trips that would use a total of approximately 2,916 gallons of gasoline per day, or 1,064,330 gallons of gasoline per year. Additionally, the Project would generate operational vehicle trips that require electricity for electric vehicles, which is dependent on the amount of electric vehicles within the vehicle fleet at the time of Project operation.

Over the lifetime of the Project, the fuel efficiency of the vehicles being used by the Project is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the Project site during operation would decrease over time. Numerous regulations are in place that require and encourage increased fuel efficiency. For example, CARB has adopted a new approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and ZEVs in California (CARB 2017). The Project would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes, which would minimize fuel consumption. Operation of the Project is expected to use decreasing amounts of petroleum over time due to advances in fuel economy. The Project would provide a bike-friendly, pedestrian-friendly development and facilitate ride-sharing and carpooling to reduce VMT. The Project also would encourage EVs by providing EV chargers, in compliance with CalGreen Tier 2 standards.

In summary, although Project implementation would result in an increase in petroleum use during construction and operation, over time vehicles would use less petroleum due to advances in fuel economy. Additionally, the Project would include features that would encourage electric and zero-emissions technology, and reduced VMT through bike trails, sidewalks, and the provision of transit information. Given these considerations, petroleum consumption associated with the Project would not be considered inefficient or wasteful, and impacts would be less than significant.

CONCLUSION

The proposed Project would use energy resources for the operation of Project buildings (natural gas and electricity), outdoor lighting (electricity), for on-road vehicle trips (e.g. gasoline and diesel fuel) rerouted by the proposed Project, and from off-road and on-road construction activities associated with the proposed Project (e.g. diesel fuel). Each of these activities would require the use of energy resources. The proposed Project would be responsible for conserving energy, to the extent feasible.

The proposed Project would be in compliance with all applicable federal, State, and local regulations regulating energy usage. For example, PG&E, the electric and natural gas provider to the proposed Project, is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the statewide RPS to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. PG&E has achieved at least a 33% mix of renewable energy resources in 2020 and is on track to achieve 60% mix of renewable energy by 2030. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time.

The proposed Project would comply with all existing energy standards and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed Project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the thresholds as described by the *CEQA Guidelines*. This is a **less than significant** impact.

Impact 3.7-4: The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (Less than Significant)

State and local renewable energy and energy efficiency plans applicable to the Proposed Project are discussed above under Regulatory Framework. State plans include the AB 1493 Pavley Rules, California Title 24 energy efficiency standards, Executive Order B-16-12, SB 350, SB 100, and SB 1020. Each contains required standards related to energy efficiency and renewable energy development. Local plans that address energy efficiency to achieve the state's RPS mandates include PG&E's 2020 IRPs and the City's CAP. The City's General Plan and Municipal Code also include goals, policies, and requirements related to energy use and energy reductions.

As discussed above under Impact 3.7-3, the Proposed Project would incorporate sustainability features. The Project would comply with the latest (and most stringent) version of Title 24 and CalGreen Tier 2 EV charging requirements. Under Mitigation Measure 3.7-1, natural gas usage would be limited to cooking facilities in residences and amenities in common spaces and natural gas use must be offset by solar energy. Furthermore, the Proposed Project would incorporate TDM measures, install photovoltaic panels, and have wiring for batteries to store solar energy for use during evening, peak demand hours. The Proposed Project would be required to comply with state and local renewable energy and energy efficiency plans. As a result, it would benefit from renewable energy development and increases in energy efficiency. Energy usage from vehicle trips is expected to become more efficient under regulations included in Pavley and EO B-16-12, which address average fuel economy and commercialization of zero-emission vehicles, respectively. Building energy efficiency is also expected to increase as a result of compliance with Title 24 building codes, which are expected to move toward zero net energy for new construction and 100 percent renewable energy under SB 350, SB 100, and SB 1020 regulations. With implementation of the Project, PG&E would continue to pursue the procurement of renewable energy sources to meet their RPS portfolio goals and comply with state regulations. Therefore, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and the impact would be less than significant. No mitigation is required. Moreover, the proposed Project would not generate cumulative impacts in this regard since the Project would be consistent with all state and local plans for renewable energy and energy efficiency.

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) evaluate a project's effects in relationship to broader changes occurring, or that are reasonably foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents a discussion of CEQA-mandated analysis for cumulative impacts, significant irreversible effects, mandatory findings of significance, and significant and unavoidable impacts associated with the proposed Project.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

In addition to the evaluation of project-specific impacts, CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the proposed Project. However, the discussion need not be as detailed as the discussion of impacts for the project alone.

According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." As defined in CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). According to CEQA Guidelines Section 15355, a cumulative impact refers to two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. A cumulative impact from several projects is:

> *…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

A discussion of cumulative impacts need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness. In addition, Section 15130(b) states that the following elements are necessary for an adequate discussion of significant cumulative impacts:

1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

(B) A summary of projections contained in an adopted local, regional, or statewide plan or related planning document, or in a prior environmental document that has been adopted or certified for such a plan, that describes or evaluates conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

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.

CUMULATIVE SETTING

Under CEQA, the discussion of cumulative impacts should focus on the severity of the impacts and the likelihood of their occurrence. The geographic scope for the cumulative analysis covers the entire Manteca Planning Area, which for the purposes of the General Plan includes the geographic area for which the City's existing General Plan provides a framework for long-term plans for growth, resource conservation, and continued agricultural activity. State law requires the General Plan to include all territory within Manteca's incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (California Government Code Section 65300). The Planning Area for the Manteca General Plan includes the entire City Limits and the City's Sphere of Influence (SOI).. It should be noted that, for some environmental topics, the geographic scope for the cumulative analysis also covers the boundaries of San Joaquin County, the San Joaquin Valley Air Basin, and/or other jurisdictional boundaries that are relevant to the particular environmental topic. Cumulative settings are identified under each cumulative impact analysis. Cumulative settings vary because the area that the impact may affect is different. For example, noise impacts generally only impact the local surrounding area because noise travels a relatively short distance, while air quality impacts affect the whole air basin as wind currents control air flow and are not generally affected by natural or manmade barriers which would affect noise. Cumulative Project impacts are addressed and summarized below.

In most cases in this EIR, the buildout analysis utilizes year 2025 and year 2028 as potential Project buildout years.

Land Uses

The San Joaquin County Assessor's office maintains a database of existing land uses within the City of Manteca on individual parcels, including the number of dwelling units and related improvements such as non-residential building square footage. This information is used as the basis for property tax assessments and is summarized in Table 4.0-1.

TABLE 4.0-1: ASSESSED LAND USES – CITY OF MANTECA

LAND USE	*CITY LIMITS*	*PLANNING AREA (OUTSIDE OF CITY)*	*TOTAL ACRES*
Single Family Residential	4,384.73	2,141.52	6,526.25
Multifamily Residential	313.72	16.01	329.73
Commercial	1,108.06	35.78	1,143.85
Industrial Manufacturing	448.57	19.73	468.31
Industrial Non-Manufacturing	336.32	57.10	393.42
Institutional	1,300.78	685.28	1,986.07
Office	50.34	8.36	58.69
Open Space	0	176.14	176.14

SOURCE: SAN JOAQUIN COUNTY ASSESSOR'S OFFICE, 2016; DE NOVO PLANNING GROUP, 2020.

CUMULATIVE EFFECTS OF THE PROJECT

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. Section 15130 of the CEQA Guidelines requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines 15130[b]).

In order to assess cumulative impacts, an EIR must analyze either a list of past, present, and probable future projects (referred to as the "list approach") or a summary of projections contained in an adopted general plan or related planning document (referred to as the "projection method"). This EIR uses the **projection method** for the cumulative analysis and considers buildout of the proposed Project in addition to buildout of the existing general plans within San Joaquin County, as summarized and addressed in the San Joaquin County 2022 Regional Transportation Plan/Sustainable Communities Strategy (2022 RTP/SCS). Development of the San Joaquin County 2022 RTP/SCS included review of land use plans for each jurisdiction within San Joaquin County, including:

- County of San Joaquin
- City of Manteca
- City of Stockton
- City of Tracy
- City of Lodi

- City of Lathrop
- City of Escalon
- City of Ripon

The San Joaquin County 2022 RTP/SCS projects that growth Countywide by year 2045 would result in 302,229 households, and a population of 987,241 in 2045. Table 4.0-2 shows the population and housing forecasts between 2025 and 2045 in San Joaquin County.

TABLE 4.0-2: POPULATION AND HOUSING PROJECTIONS

	2025	*2030*	*2035*	*2040*	*2045*
POPULATION					
City of Escalon	8,158	8,452	8,599	8,718	8,831
City of Lathrop	33,203	40,955	48,472	56,164	64,142
City of Lodi	72,277	75,445	77,357	79,058	80,763
City of Manteca	92,810	100,537	107,115	113,904	121,234
City of Ripon	17,994	19,244	20,219	21,176	22,172
City of Stockton	335,798	348,258	354,700	359,991	365,114
City of Tracy	104,938	113,446	120,361	127,165	134,179
Mountain House CDP	24,381	29,223	34,029	39,153	44,707
Unincorporated	143,494	146,602	146,959	146,656	146,099
County Total	**833,053**	**882,163**	**917,811**	**951,985**	**987,241**
HOUSING UNITS					
City of Escalon	2,823	2,912	2,962	3,006	3,046
City of Lathrop	9,291	11,561	13,794	16,098	18,459
City of Lodi	25,113	26,085	26,712	27,313	27,881
City of Manteca	28,708	30,899	32,829	34,871	37,027
City of Ripon	5,943	6,311	6,608	6,909	7,212
City of Stockton	102,073	105,132	106,722	108,140	109,358
City of Tracy	30,476	32,779	34,722	36,686	38,658
Mountain House CDP	6,966	8,378	9,806	11,343	12,990
Unincorporated	46,954	47,752	47,829	47,780	47,596
County Total	**258,347**	**271,810**	**281,984**	**292,147**	**302,229**

SOURCE: SJCOG 2022 RTP/SC, APPENDIX Q: POPULATION, HOUSEHOLD, AND EMPLOYMENT PROJECTS, TABLES 8 AND 34.

The Projection Method serves as a guide to determine if the proposed Project is consistent with the long-term population, employment, and household projections of the region. If the proposed Project is generally consistent with regional projections, then it would also generally be consistent with regional efforts to address environmental problems such as air quality and traffic.

Project Assumptions

The proposed Project's contribution to environmental impacts under cumulative conditions is based on full buildout of the Project site. See Chapter 2.0, Project Description, for a complete description of the proposed Project.

Cumulative Impacts

Some cumulative impacts for issue areas are not quantifiable and are therefore discussed in general terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic, utilities, noise and air quality (the latter two of which are associated with traffic volumes), which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result.[1] In consideration of the cumulative scenario described above, the proposed Project may result in the following cumulative impacts.

AESTHETICS AND VISUAL RESOURCES

The cumulative setting for aesthetics is the City of Manteca and surrounding areas of Lathrop and San Joaquin County, since these are the areas within potential visual range of the Project.

Impact 4.1: Cumulative Damage to Scenic Resources within a State Scenic Highway (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

There are no designated State Scenic Highways in the vicinity of the Project site. Only one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of Interstate 580 from Interstate 5 to State Route 205. This Designated Scenic Highway is located approximately 16 miles southwest of the Project site and is not visible from the Project site. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The City of Manteca and the Project site are not visible from this roadway segment. Additionally, there are no "eligible" highway segments in the Project vicinity that may be included in the State Scenic Highway system. Cumulative development in the city would not impact a Designated Scenic Highway. Overall, the Project would not combine with other nearby existing and reasonably foreseeable future projects to generate a significant cumulative impact to the environmental topic. The Project also would make a **less than cumulatively considerable contribution** to any potential cumulative impact.

[1] It should be noted that the Mineral Resources topic is addressed in Section 3.6: Geology and Soils. Since there are no significant deposits of mineral resources located on the Project site, as delineated by the Mineral Resources and Mineral Hazards Mapping Program (MRMHMP), and since Project site is not designated as a Mineral Resource Zone (MRZ), this CEQA topic will not be discussed further.

Impact 4.2: Cumulative Degradation of Scenic Vistas and Resources and the Existing Visual Character of the Region (Cumulatively Considerable Contribution and Significant and Unavoidable)

As described in Section 3.1, Aesthetics and Visual Resources, implementation of the proposed Project would convert the 202.81-acre Development Area from its existing use as primarily agricultural land to a residential neighborhood with associated park areas. Implementation of the proposed development standards and consistency with the City's existing General Plan and the Manteca Zoning Ordinance would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

Under cumulative conditions, buildout of the Project for Manteca and the surrounding jurisdictions could result in changes to the visual character and quality of the area through development of undeveloped areas and/or changes to the character of existing communities. Development of the proposed Project, in addition to other future projects in the area, would change the existing visual and scenic qualities of the area. There are no mitigation measures that could reduce this impact except a ceasing of all future development, which is not a feasible option. As such, this would be a significant cumulative impact to which the Project would make a **cumulatively considerable contribution**. Because no feasible mitigation exists to reduce this impact, this is considered **a significant and unavoidable** impact.

Impact 4.3: Cumulative Impact on Light and Glare (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the regulations and standards within the Manteca Municipal Code would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare.

Future projects within Manteca, Lathrop, and San Joaquin County would be subject to the light and glare standards established by the individual jurisdictions. These regulations are designed to minimize potential light and glare impacts of new development. Implementation of these regulations would ensure that future projects minimize their potential cumulative light and glare, and the Project thus would not combine with other nearby existing and reasonably foreseeable future projects to generate a significant cumulative impact to this environmental topic. The Project's contribution to any cumulative impact also would be **less than cumulatively considerable**.

AGRICULTURAL RESOURCES

The cumulative setting for agriculture and forest resources is all of San Joaquin County. According to the California Department of Conservation, the total acreage of crop land in the County is approximately 772,762 acres. The gross value of agricultural production in San Joaquin County for

2019 was $2,617,815,000, which represents a 9.1 percent increase from 2018 when gross production value totaled $2,594,246,000.

Impact 4.4: Cumulative Impact on Agricultural Resources (Cumulatively Considerable Contribution and Significant and Unavoidable)

As described in Section 3.2, the proposed Project would result in the permanent conversion of approximately 26.2 acres of Prime Farmland and 146.25 acres of Farmland of Statewide Importance. The loss of Important Farmland as classified under the Farmland Mapping and Monitoring Program is considered a potentially significant environmental impact.

The City's agricultural mitigation fee program requires that future development pay the agricultural mitigation fee, currently $2,956.2 per acre, to mitigate the conversion of agricultural land to urban use. The City will use these funds to purchase conservation easements or deed restrictions on agricultural land to ensure that the land remains in agricultural use in perpetuity.

In addition to the City's agricultural mitigation fee program, the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) requires development to pay fees on a per-acre basis for impacts to agricultural lands that function as habitat for biological resources. SJCOG will then use these funds to purchase conservation easements on agricultural and habitat lands in the Project vicinity. The compensation results in the purchase of conservation easements that are placed over agricultural land, such as alfalfa and row crops. As such, the Project fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands in perpetuity.

The purchase of conservation easements and/or deed restrictions through the City agricultural mitigation fee program and the SJMSCP allows the landowners to retain ownership of the land and continue agricultural operations and preserves such lands in perpetuity.

While the proposed Project will contribute fees toward the purchase of conservation easements on agricultural lands through the City's agricultural mitigation fee program and the SJMSCP mitigation program, as required by Mitigation Measure 3.2-1, those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with Project implementation. Furthermore, the proposed Project would be required to implement Mitigation Measure 3.2-2, which requires the Project to implement buffers from adjacent agricultural uses. On a project-specific basis, this is a significant and unavoidable impact. Furthermore, on a cumulative level, the proposed Project in conjunction with other nearby existing and reasonably foreseeable future projects would generate a significant cumulative impact. This is because, while the proposed Project will contribute fees toward the purchase of conservation easements on agricultural lands through the City's agricultural mitigation fee program and the SJMSCP (as required by Mitigation Measure 3.2-1), those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with Project implementation. Therefore, the Project's contribution to such an impact would be considered cumulatively considerable, even with the aforementioned mitigation measures. The Project thus would make a **cumulatively considerable contribution** to this significant cumulative impact**,** and this is considered a **significant and unavoidable** impact.

AIR QUALITY

Air quality issues have the potential to affect the entire basin. Therefore, cumulative setting for air quality impacts is the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south.

Impact 4.5: Cumulative Impact on the Region's Air Quality (Less than Cumulatively Considerable Contribution)

Under buildout conditions in San Joaquin County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.3, San Joaquin County has a State designation Attainment or Unclassified for all criteria pollutants except for ozone, particulate matter of 10 microns or less in size (PM_{10}), and particulate matter of 2.5 microns or less in size ($PM_{2.5}$). San Joaquin County has a national designation of either Unclassified or Attainment for all criteria pollutants except for ozone and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the State and Federal attainment status for San Joaquin County.

As discussed under Impact 3.3-1 in Section 3.3, the SJVAPCD has established their thresholds of significance by which the Project emissions are compared against to determine the level of significance. The SJVAPCD has established operations related emissions thresholds of significance as follows: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NO_x), 10 tons per year of reactive organic gases (ROG), 27 tons per year of sulfur oxides (SO_x), 15 tons per year PM_{10}, and 15 tons per year $PM_{2.5}$.

As shown in Table 3.3-6, operational emissions would not exceed the SJVACPD thresholds of significance for criteria pollutants. Additionally, as shown in Table 3.3-7, construction emissions would not exceed the SJVACPD thresholds of significance for criteria pollutants.

Additionally, as described in Section 3.3, the proposed Project would not conflict or obstruct implementation of the District's air quality plan, expose sensitive receptors to substantial pollutant concentrations, or expose the public to other emissions (such as odors) that could adversely affect a substantial number of people.

The air basin suffers from an existing significant cumulative impact. The proposed Project would make a **less than cumulatively considerable** contribution to the significant cumulative impact.

BIOLOGICAL RESOURCES

The cumulative setting for biological resources includes the Project site and San Joaquin County. Development associated with implementation of the proposed Project would contribute to the ongoing loss of natural and agricultural lands in San Joaquin County, including the Project site. Cumulative development would result in the conversion of existing habitat to urban uses. The local General Plan(s), in addition to regional, State and federal regulations, include policies and measures that mitigate impacts to biological resources associated with regional buildout. Additionally, local land use authorities in San Joaquin County require development to participate in the SJMSCP, which is a habitat conservation plan and natural community conservation plan for San Joaquin County that provides a mechanism for compensatory mitigation for habitat and species loss in accordance with federal and State laws.

Impact 4.6: Cumulative Loss of Biological Resources Including Habitats and Special Status Species (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

Cumulative development anticipated throughout the greater San Joaquin County region will result in impacts to biological resources, including the permanent loss of habitat for special status species, corridor fragmentation, direct and indirect impacts to special status species, and reduction and degradation of sensitive habitat. Biological resources are a limited resource and the cumulative loss is considered significant.

Under cumulative conditions, buildout of the Project, in conjunction with other Project planned for within San Joaquin County, will result in impacts to biological resources in the cumulative area through new and existing development.

As described in Section 3.4, Biological Resources, construction on the Project site has the potential to result in impacts to special-status species in the region. Although there has been no documented sighting within the immediate area of the Project site, the Project site provides potential habitat for several species, including those discussed in Section 3.4.

Mitigation Measure 3.4-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the Project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage. Implementation of Mitigation Measure 3.4-1 would reduce Project-specific impacts to special-status species to a level of insignificance.

As further described in Section 3.4, Biological Resources, the proposed Project would not have a direct or indirect effect on special-status invertebrate, reptile, amphibia, bird, or mammal species, or on candidate, sensitive, or special-status plant species. Moreover, the proposed Project would not have an effect on protected wetlands or jurisdictional waters, since the Project site does not contain protected wetlands or other jurisdictional areas and there is no need for permitting associated with the Federal or State Clean Water Act. Moreover, the proposed Project would not result in adverse effects on riparian habitat or a sensitive natural community, result in interference with the movement of native fish or wildlife species or with established wildlife corridors, or impede the use of native wildlife nursery site, conflict with an adopted Habitat Conservation Plan, or conflict with local polices or ordinances protecting biological resources.

Additionally, implementation of the Project would not conflict with the provisions of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), or other approved local, regional, or State habitat conservation plan. The SJMSCP, in accordance with ESA Section 10(a)(1)(B) and CESA Section 2081(b) Incidental Take Permits, provides compensation for the Conversion of Open Space to non-Open Space uses which affect the plant, fish and wildlife species covered by the Plan, hereinafter referred to as "SJMSCP Covered Species". The 97 SJMSCP Covered Species include 25 state and/or federally listed species. The SJMSCP Covered Species include 27 plants (6 listed), 4 fish (2 listed), 4 amphibians (1 listed), 4 reptiles (1 listed), 33 birds (7 listed), 15 mammals (3 listed) and 10 invertebrates (5 listed). The San Joaquin Council of Government uses the collected SJMSCP fees to preserve open space land of comparable types throughout the County, often coordinating with other private or public land trusts to purchase conservation easements or buy land outright for preservation. Compliance with the SJMSCP addresses impacts to biological resources, including special-status species, on a local and regional level. Implementation of Mitigation Measure 3.4-1 would ensure that future projects minimize their potential cumulative impact to biological resources, and the Project thus would not combine with other nearby existing and reasonably foreseeable future projects to generate a significant cumulative impact to this environmental topic. Therefore, the proposed Project's incremental contribution to this cumulative impact would be **less than cumulatively considerable**.

CULTURAL AND TRIBAL RESOURCES

The cumulative setting for cultural resources impacts includes all of the San Joaquin County.

Impact 4.7: Cumulative Impacts on Known and Undiscovered Cultural and Tribal Resources (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

Cumulative development anticipated in San Joaquin County, including growth projected by adopted future projects, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. As discussed in Section 3.5, Cultural and Tribal Resources, no historic period resources were previously recorded in the Development Area for the Project.

The Project site is located in an area known to have historical, archaeological, and tribal cultural resources. A Sacred Lands File (SLF) search was requested from the NAHC and found no known sacred lands within the Development Area as of November 7, 2021. As described under the Consultation heading above, the City of Manteca sent outreach letters to the thirteen tribal representatives listed in the NAHC response, including: Rhonda Morningstar Pope, Chairperson of the Buena Vista Rancheria of Me-Wuk Indians; the California Valley Miwok Tribe; Lloyd Methiesen, Chairperson of the Chicken Ranch Rancheria of Me-Wuk Indians; Sara A. Dutschke, Chairperson of the Ione Band of Miwok Indians; Monica Arellano, Vice Chairwomen of the Muwekma Ohlone Indian Tribe of the SF Bay Area; Cosme A. Valdez, Chairperson of the Nashville Enterprise Miwok-Maidu-Nishinam Tribe; Katherine Perez, Chairperson of the North Valley Yokuts Tribe; Timothy Perez, contact of the North Valley Yokuts Tribe; Neil Peyron, Chairperson of the Tule River Indian Tribe; and

Corrina Gould, Chairperson of the Confederated Villages of Lisjan; Jesus G. Tarango, Jr., Chairperson of the Wilton Rancheria; Steven Hutchason, THPO of the Wilton Rancheria; Kenneth Woodrow, Chairperson of the Wuksache Indian Tribe/Eshom Valley Band of Foothill Yokuts. To date, no responses have been received.

While no specific resources have been identified through consultation with affiliated tribes, it is possible that unknown tribal cultural resources may be present within the Development Area. The Proposed Project would be required to follow development requirements, including compliance with local policies, ordinances, and applicable permitting procedures related to protection of tribal resources. As discussed under Impacts 3.5-1 through 3.5-3, development of the proposed project could impact unknown archaeological resources including Native American artifacts and human remains.

Any previously unknown cultural resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources in the region.

All future projects in the regional vicinity would be subject to their respective General Plans (i.e., City of Manteca, City of Lathrop, and San Joaquin County), each of which have policies and measures that are designed to ensure protection of undiscovered cultural resources. In addition, all discretionary projects in these jurisdictions would require environmental review per regulations established in CEQA and comply with state law that address the discovery of human remains, such as Health and Safety Code section 7050.5.

Therefore, the Project, in combination with other existing nearby and reasonably foreseeable future projects, would not generate a significant cumulative impact related to cultural and tribal resources. The Project also would make a **less than cumulatively considerable** contribution to any cumulative impact.

GEOLOGY AND SOILS

Impacts related to geology and soils are not inherently cumulative. Geology and soils concerns are related to risks, hazards or development constraints that are largely site-specific. However, seismic hazards are regional, and management of seismic hazards is vested with the local planning and building authority. For these reasons, the potential for cumulative geology and soils impacts are considered in the context of the City of Manteca and San Joaquin County.

Impact 4.8: Cumulative Impact on Geologic and Soils Resources (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

Construction of the proposed Project will result in risks associated with geology and soils. For example, there is an ongoing possibility that a fault located anywhere in the state (or region) could rupture and cause seismic ground shaking. Additionally, grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Other geologic risks such as liquefaction, landsliding, lateral spreading, and soil expansion are also geologic risks that are present.

The Project would not exacerbate the impacts that may be caused to the environment from any existing geologic impacts. As discussed in Section 3.6 Geology and Soils, implementation of the proposed Project has limited potential for liquefaction, liquefaction induced settlement, and lateral spreading. However, mitigation measures provided in Section 3.6 ensure this impact will be less than significant. While the City is not within an area known for its seismic activity, there will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site. Seismic activity could come from a known active fault such as the Greenville fault, or any number of other faults in the region. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. Additionally, the City of Manteca has incorporated numerous policies relative to seismicity to ensure the health and safety of all people. Design in accordance with these standards and policies would reduce any potential impact of the Project to a less than significant level.

Geologic impacts are site-specific and not additive in character. However, cumulative geologic impacts associated with erosion and sedimentation could occur in the County as each individual city and community continues to develop over the next 20 years. While some cumulative erosion-related impacts will occur in the region as individual projects are constructed, the existing General Plan policies and actions, as well as State and Federal regulations, will reduce the Project's contribution to the risk to people in the region. Considering the protection provided by local, State, and Federal agencies and their requirements for seismic design, as discussed in Section 3.6 (Geology and Soils), the overall cumulative impact of the Project, along with other nearby existing and reasonably foreseeable projects, would not be significant. The proposed Project's incremental contribution to any cumulative geologic and soil impact also would be **less than cumulatively considerable**.

GREENHOUSE GASES, CLIMATE CHANGE AND ENERGY

Although greenhouse gas emissions and climate change are a global phenomenon, the cumulative setting for greenhouse gas emissions and climate change impacts for this analysis is State of California, which is the boundary for the California Air Resources Board's Statewide greenhouse gas emissions reduction targets. Similarly, energy impacts can be defined by region or by a political subdivision. Therefore, the cumulative setting for energy impacts includes the State of California.

Impact 4.9: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions (Cumulatively Considerable Contribution and Significant and Unavoidable)

Greenhouse gas emissions from a single Project will not cause global climate change; however, greenhouse gas emissions from multiple projects throughout a region or state could result in a cumulative impact with respect to global climate change. The analysis of greenhouse gases is inherently cumulative.

In California, there has been extensive legislation passed with the goal of reducing greenhouse gas emissions. The legislative goals are as follows: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

The City of Manteca adopted its Climate Action Plan (CAP) in October 2013. The purpose of the CAP is to: 1) outline a course of action for the City government and the community of Manteca to reduce per capita greenhouse gas emissions by amounts required to show consistency with AB 32 goals for 2020 and adapt to effects of climate change, and 2) provide clear guidance to City staff regarding when and how to implement key provisions of the CAP, and 3) provide a streamlined mechanism for projects that are consistent with the CAP to demonstrate that they would not contribute significant greenhouse gas impacts. The GHG Plan is considered a “Qualified Plan,” according to CEQA Guidelines Section 15183.5.2. The City’s GHG Inventory is evaluated for baselines years 2005 and 2010 and is projected for years 2020 and 2035.

Each of the Considerations discussed in Section 3.7: Greenhouse Gases, Climate Change, and Energy inform the ultimate significance determination of whether the Project 1) generates greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, and 2) conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Overall, the proposed Project is consistent with the State’s long-term climate goals and strategies. The analysis includes an assessment of the Project’s consistency with a 2030 threshold from SMAQMD, the CARB’s 2022 Scoping Plan, Air District requirements, and the City of Manteca CAP. This assessment includes a consistency analysis with regulations or requirements adopted to reduce greenhouse gas emissions, and also evaluates Project specific GHG emissions and the extent to which they are able to be reduced by effective mitigation strategies including Project design features, best performance measures, and mitigation measures. The evaluation of Project specific GHG emissions was performed under the modeling scenarios for Year 2025 and Year 2028, as well as Years 2022 (Baseline), 2030, 2035, 2040, and 2045 (for the sake of comparison). The modeling showed that GHG emissions associated with the proposed Project would be above the target levels established for the Project.

To reduce GHG emissions, mitigation strategies must be developed either for the Project as a whole, or for the individual components of the overall Project. For example, Mitigation Measure 3.7-1 requires that Project applicants are prohibited from having natural gas water heaters, area heating, or clothing dryers, but are otherwise permitted to have natural gas in residential units for cooking and in community spaces. Mitigation Measure 3.7-2 would require the Project to meet the CalGreen Tier 2 standards as identified in the SMAQMD’s *Greenhouse Gas Thresholds for Sacramento County* (June 2020), except that all “EV Capable” spaces shall be “EV Ready”, consistent with the requirements of BMP 2 of Tier 1 of the SMAQMD’s greenhouse gas thresholds. Furthermore, Mitigation Measure 3.7-3 provides a framework that collectively will reduce GHG emissions through a series of onsite measures. With implementation of Mitigation Measure 3.7-1, 3.7-2, and 3.7-3, the Project's GHG emissions would be reduced, but still would exceed the City's VMT threshold, which exceedance also results in an exceedance of the service population threshold. While the Project implements measures in alignment with the applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases, the Project would nevertheless make a cumulatively considerable contribution to significant cumulative climate change impacts due to its high VMT.

Separately, the CEQA Guidelines require consideration of the potentially significant energy implications of a Project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed Project would be considered "wasteful, inefficient, and unnecessary" if it were to violate State and federal energy standards and/or result in significant adverse impacts related to Project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The proposed Project would use energy resources for the operation of Project buildings (natural gas and electricity), outdoor lighting (electricity), for on-road vehicle trips (e.g., gasoline and diesel fuel) rerouted by the proposed Project, and from off-road and on-road construction activities associated with the proposed Project (e.g., diesel fuel). Each of these activities would require the use of energy resources. The proposed Project would be responsible for conserving energy, to the extent feasible.

The proposed Project would be in compliance with all applicable federal, State, and local regulations regulating energy usage. For example, PG&E, the electric and natural gas provider to the proposed Project, is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the statewide RPS to increase the proportion of renewable energy (e.g., solar and wind) within its energy portfolio. PG&E has achieved at least a 33% mix of renewable energy resources in 2020 and is on track to achieve 60% mix of renewable energy by 2030. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g., the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time.

The proposed Project would comply with all existing energy standards and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed Project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the thresholds as described by the *CEQA Guidelines*.

Although impacts related to energy would have a **less than significant** cumulative impact, Project impacts related to greenhouse gas emissions would result in the Project making a **cumulatively considerable contribution** to a significant cumulative impact and would be considered a **significant and unavoidable** impact.

HAZARDS AND HAZARDOUS MATERIALS

The cumulative context for the analysis of hazards and hazardous materials impacts is San Joaquin County, including all cumulative growth therein, as represented by full implementation of each respective General Plan (i.e., Manteca, Lathrop, and San Joaquin County). As discussed in Section 3.8 Hazards and Hazardous Materials, implementation of the proposed Project would not result in any Project-specific significant impacts related to this environmental topic with the implementation of the mitigation measures provided in Section 3.8.

Impact 4.10: Cumulative Impact Related to Hazards and Hazardous Materials (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

The proposed Project, in conjunction with cumulative development in the region, would include areas designated for development. Cumulative development would include continued operation of, or development of, new facilities as allowed under each land use designation. New development would inevitably increase the use of hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers). Hazard-related impacts tend to be site-specific and Project-specific. The Project site is not associated with any existing hazardous materials spills; however, there are numerous areas throughout the County where hazardous conditions are present.

Implementation of the proposed Project would not result in significant increased risks of hazards in the cumulative setting area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. Similar requirements and mitigation would be imposed on other cumulative projects, and the Project, in combination with other nearby existing and reasonably foreseeable projects, would not generate a significant cumulative impact related to hazards and hazardous materials. Implementation of the proposed Project also would not make a cumulatively considerable impact to any cumulative impact. As a result, the proposed Project's incremental contribution to hazards and hazardous materials would be **less than cumulatively considerable**.

HYDROLOGY AND WATER QUALITY

Potential cumulative issues associated with surface waters can be addressed on a watershed basis, or in the case of groundwater, in the context of a groundwater basin. Because water resources are highly interconnected, the cumulative setting is based on San Joaquin County, which is located in the San Joaquin River Hydrological Region. Cumulative development in this region, including the proposed Project, would impact the water quality and hydrological features of the San Joaquin River Hydrologic Region. The City of Manteca and much of the surrounding area is located in the Eastern San Joaquin River Groundwater Basin. This groundwater basin covers approximately 1,105 square miles. The Project site is located in the Town of French Camp-San Joaquin River watershed. Any matter that may affect water quality draining from the Project site will eventually end up in the Delta or within the groundwater basin.

Impact 4.11: Cumulative Increases in Peak Stormwater Runoff from the Project site (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

The cumulative area for stormwater is the local storm drainage system. Implementation of the proposed Project would increase the amount of impervious surfaces in the Project site, which could increase peak stormwater runoff rates and volumes on and downstream on the Project site. However, the proposed Project includes an extensive system of on-site stormwater collection facilities to accommodate the increased stormwater flows that would originate in the Project site.

All on-site storm drainage runoff will be collected through drain inlets in the landscaped areas and catch basins along the streets and within properties and conveyed via surface swales and underground trunk lines to detention and water quality basins. The conveyance systems and detention basins may include facilities designed to address water quality standards and requirements. Discharge from the basins will be conveyed through controlled flow pumping facilities to existing City of Manteca and SSJID dual use main storm drain laterals. The duration of the discharge will comply with City of Manteca standards. The water quality detention basins will be designed to comply with SWRCB and City of Manteca specifications and standards.

Conveyance of the detained storm drainage runoff from the proposed on-site dual use detention basins may be via either gravity flow drainage lines or pumped to existing realigned and upgraded City and SSJID dual use Laterals. Stormwater quality standards imposed and monitored by the Environmental Protection Agency (EPA) and the SWRCB through the City's NPDES permit require treatment of stormwater runoff prior to its release into natural drainage features or dual use South SSJID and City Laterals. Stormwater quality is an integral part of the City's stormwater management system.

With the design and construction of flood control improvements, the proposed Project would not increase peak stormwater runoff. New development in the area would be subject to similar requirements. As a result, the Project, in combination with other nearby existing and reasonably foreseeable projects, would not generate a significant cumulative impact related to this topic area.

The Project's incremental contribution to any cumulative impact associated with peak stormwater runoff from the Project site also would be **less than cumulatively considerable**.

Impact 4.12: Cumulative Impacts Related to Degradation of Water Quality (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

The cumulative area for water quality impacts is the local storm drainage system. The proposed Project, along with several of the related projects within the City of Manteca, would ultimately discharge stormwater runoff to the nearby Delta waterways. This would potentially degrade the water quality of the system.

Construction of the proposed Project would contribute to a cumulative increase in urban pollutant loading, which could adversely affect water quality. Cumulative development in the Manteca area, including the proposed Project, would also result in increased impervious surfaces that could increase the rate and amount of runoff, thereby potentially adversely affecting existing surface water quality through increased erosion and sedimentation. The primary sources of water pollution include: runoff from roadways and parking lots; runoff from landscaping areas; non-stormwater connections to the drainage system; accidental spills; and illegal dumping. Runoff from roadway and parking lots could contain oil, grease, and heavy metals; additionally, runoff from landscaped areas could contain elevated concentrations of nutrients, fertilizers, and pesticides.

The proposed Project will be required to comply with Mitigation Measure 3.9-1 which requires the development and approval of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include Best Management Practices (BMPs) to regulate stormwater quality for the Project site which will be designed in accordance with the City of Manteca's National Pollutant Discharge Elimination System Permit (NPDES) issued by the RWQCB. Mitigation Measure 3.9-2 requires non-structural BMPs that focus on preventing pollutants from entering stormwater. Non-structural BMPs are typically aimed at prevention of pollution through public education and outreach. Non-structural BMPs include: school educational programs, newsletters, website information, commercial, billboards/advertisements, river cleanups, and storm drain stenciling. Mitigation Measure 3.9-3 requires implementation of structural BMPs. Structural BMPS are aimed at the physical collection, filtering, and detaining of stormwater. Structural BMPs include items such as drop inlet filters, vault filters, hydrodynamic separators, surface detention basins, and underground detention facilities.

While there are no assurances that other projects in the County would incorporate the same degree or methods of treatment as the proposed Project, several of the projects within the City of Manteca would phase out existing agricultural runoff discharges from their respective sites and, similar to the proposed Project, could provide some level of water quality improvement. Also, each related Project that would discharge stormwater runoff would be required to comply with NPDES discharge permits from the RWQCB, which adjusts requirements on a case-by-case basis to avoid significant degradation of water quality. Therefore, while a greater quantity of urban runoff may be discharged to the Delta system with implementation of the project and foreseeable future projects, because of an increase in impervious surfaces, the associated surface water quality impacts would be expected to be less than significant because of improved or similar quality of runoff compared to existing conditions.

Compliance with City and County water quality protection regulations, approval from the RWQCB, and Mitigation Measures 3.9-1 through 3.9-3 would ensure that the proposed Project minimizes impacts to surface water quality. Moreover, the proposed Project would also be required to implement Mitigation 3.6-1 (from Section 3.6 Geology and Soils), which requires the use of BMPs are intended to treat runoff close to the source during the construction and long-term operational phase of the Project to reduce stormwater quality impacts. As a result, the Project, in combination with other nearby existing and reasonably foreseeable projects, would not generate a significant cumulative impact related to this topic area. As a result, the proposed Project's incremental contribution to any cumulative impact associated with the potential for degradation of water quality would be **less than cumulatively considerable**.

Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge (Less than Cumulatively Considerable Contribution)

The cumulative area for impacts related to degradation of groundwater supply or recharge is the local storm drainage system. The proposed Project would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

The infiltration rate of the soils on the Project site is primarily considered high. Development of the Project site with impervious surfaces could reduce rainwater infiltration and groundwater recharge when compared to existing conditions. The park and trail areas totaling approximately 14.55 acres will remain largely pervious. The collection of rainwater for those areas of impervious surfaces will be routed into the proposed Project's storm drainage system and eventually flow into the San Joaquin River. The exact design of the drainage basin in not known at this time; therefore, it is not known whether the drainage basin will percolate or not (i.e., unlined or lined).

The project site is located in the Eastern San Joaquin County Groundwater Basin, which defines the geographic scope of the cumulative analysis. Most of the fresh groundwater is encountered at depths of less than 1,000 feet, and most of this shallow groundwater is unconfined. The Victor formation is the uppermost formation and extends from the ground surface to a maximum depth of about 150 feet. Compared to the underlying formations, the Victor formation is generally more permeable and the groundwater is typically unconfined. The underlying Laguna formation includes discontinuous lenses of unconsolidated to semi-consolidated sands and silts interspersed with lesser amounts of clay and gravel. The Laguna formation is hydraulically connected to the Victor formation and is estimated to be 750 to 1,000 feet thick. Moderate permeability has been reported within the Laguna formation with some highly permeable coarse-grained beds. Most of the municipal and industrial wells in the Manteca area penetrate through the Victor formation into the Laguna formation.

Water supplies to meet future demands include surface water purchased from SSJID, City produced groundwater and recycled water. The City's water supply is projected to increase through 2045, primarily due to implementation of Phase 2 of the SCWSP, which is anticipated to occur around 2040. Future City groundwater pumping is estimated based on the safe yield for all groundwater pumping within the City's planning area, less estimated groundwater pumping by other users. Recycled water demand projections assumed decreased use over time of water for crop irrigation, and implementation of a tertiary-treated irrigation supply in the future.

For the reasons mentioned above, the proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge. As a result, the Project's incremental contribution to any cumulative impact associated with the degradation of groundwater supply or recharge would be **less than cumulatively considerable**.

Impact 4.14: Cumulative Impacts Related to Flooding (Less than Cumulatively Considerable Contribution)

As shown on Figure 3.9-2, the Project site is not within a 100-year flood zone as delineated by FEMA, the 200-year flood zone, or the 500-year flood zone. The project site is located in an area that is designated to have minimal flooding hazard. Since the Project site does not fall within a 100-year, 200-year, or 500-year floodplain there is little to no risk of flooding to the Project site and based on planned topography and water flow, the Project would not increase flooding on other sites or combine with other existing and planned projects to do so. The flood zone designation of the site is also not due to a reduced risk from a levee nor is it located within a regulatory floodway. The greatest risk of flooding on the Project site is limited to local drainage which is addressed in Impact 3.9-2 and 3.9-4 of Section 3.9: Hydrology and Water Quality, respectively. As a result, the proposed Project's incremental contribution to any cumulative impact related to flooding would be **less than cumulatively considerable**.

LAND USE, POPULATION, AND HOUSING

The cumulative setting for land use and population impacts is San Joaquin County.

Impact 4.15: Cumulative Impact on Communities and Local Land Uses (Less than Cumulatively Considerable Contribution)

Cumulative land use impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site- and Project-specific. As shown in Table 3.10-2, the Project is consistent with the City's existing General Plan policies and would not conflict with policies adopted to avoid or mitigate an environmental effect.

When land uses are not consistent with a General Plan there are two courses of action: 1) the uses are not allowed due to the inconsistency, or 2) the land uses are changed through an amendment to the General Plan to create consistency. Depending on the timing of the General Plan update, the proposed Project would require a minor General Plan Land Use Amendment to adjust the land uses to LDR and HDR for the Development Area. Because the Annexation Subareas are not proposed for development, establishment of the land uses under this proposed General Plan Amendment is not necessary, and as an alternative they may be left as currently designated. Moreover, the proposed Project would not divide an established community.

Approval of the General Plan amendment would ensure that the proposed Project would be substantially consistent with the Manteca General Plan land use requirements and would make a **less than cumulatively considerable** contribution to any significant cumulative impact relative to the Manteca General Plan.

The Manteca Zoning Code implements the General Plan. The Project site is currently within the jurisdiction of San Joaquin County. The San Joaquin County LAFCo will require the Project site to be pre-zoned by the City of Manteca in conjunction with the proposed annexation. The City's pre-zoning will include the following zoning designations: One-Family Dwelling Zoning District (R-1), Limited Multiple-Family Dwelling (R-2), Multiple-Family Dwelling (R-3), General Commercial Zoning District (CG), and Park (P). The pre-zoning would go into effect upon annexation into the City of Manteca. The proposed pre-zoning for the Project site is shown on Figure 2.0-7b. These proposed zone changes would ensure that zoning would be consistent with the proposed General Plan designations within the Project site. The zoning ordinance establishes permitted uses, development densities and intensities, and development standards for each zone to ensure that public health, safety, and general welfare are protected, consistent with the purpose of the Zoning Code. All existing City development standards and zoning requirements for the proposed zoning are applicable to any activities on the Project site. The City will review each component of the proposed Project as plans (improvement plans, building plans, site plans, etc.) are submitted for final approval to ensure that they are consistent with the City's Zoning ordinance.

The City will review each component of the proposed Project as plans (improvement plans, building plans, site plans, etc.) are submitted for final approval to ensure that they are consistent with the City's Zoning ordinance. Approval of the zone change would ensure that the proposed Project would be consistent with the Zoning Code, And the Project would make a **less than cumulatively considerable** contribution to any significant cumulative impact relative to this topic.

Impact 4.16: Cumulative Impacts on Population and Housing (Less Than Significant Impact; Less than Cumulatively Considerable Contribution)

As described in Section 3.10, development of the Project would add 915 residential units. While the existing residences within the Development Area would be demolished prior to development of the proposed Project, the existing residential structures in the Non-Development Area would remain. Therefore, the proposed Project would more than replace the housing that would be removed and would not displace substantial numbers of people or existing housing.

The Housing Element of the Manteca GP identifies that the City has capacity for 5,782 residential units on vacant and underdeveloped sites. The proposed Project would not result in indirect population growth beyond the City's planned capacity as the proposed project will generate 915 residential units, well below the residential unit capacity identified in the existing Manteca General

Plan, as well as the proposed General Plan Update. Therefore, the proposed Project is not anticipated to exceed the planned growth (directly or indirectly) in the area beyond what is anticipated in the City of Manteca General Plan. While the proposed Project will result in growth, it is not anticipated to significantly induce unplanned growth. Implementation of the proposed Project together with past, present, and foreseeable future projects will have a **less than significant** cumulative impact relative to this topic. The Project also would make a **less than cumulatively considerable contribution** to any cumulative impact related to this topic.

NOISE

The cumulative setting for noise impacts consists of the existing and future noise sources that could affect the Project site or surrounding uses.

Impact 4.17: Cumulative Exposure of Existing and Future Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

The cumulative context for noise impacts associated with the proposed Project consists of the existing and future noise sources that could affect the Project or surrounding uses. Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context since the construction noise from the project would not combine with any other projects to impact a sensitive receptor.

Traffic Noise Increases under Existing (2003) General Plan Standards

As shown in Tables 3.11-4 and 3.11-5 in Section 3.11: Noise, some noise-sensitive receptors located along the Project-area roadways within and outside of the Project site are currently exposed to exterior traffic noise levels exceeding the City of Manteca 60 dB L_{dn} exterior noise level standard for residential uses. These receptors would continue to experience elevated exterior noise levels with implementation of the proposed Project. For example, sensitive receptors under Existing conditions located adjacent to Union Road, south of Lovelace Road experience an exterior noise level of approximately 63.4 dB L_{dn}. Under Existing + Project conditions, exterior traffic noise levels are predicted to be approximately 65.1 dB L_{dn}. Exterior noise levels in both scenarios exceed the City's exterior noise level standard of 60 dB L_{dn}. Under the City's existing General Plan, the Project's contribution of 1.7 dB would not exceed the City's increase criteria of 5-10 dB. As a result, the Project, in combination with other nearby existing and reasonably foreseeable projects, would not generate a significant cumulative impact related to this topic area. Therefore, the Project would make a **less than cumulatively considerable** contribution to any significant cumulative impact relative to this topic.

Traffic Noise Increases under Proposed General Plan Standards

The Proposed City of Manteca General Plan Noise Element specifies criteria to determine the significance of traffic noise impacts. An increase in the traffic noise level of 1.5 dB or more would be significant where the pre-Project noise levels are greater than 65 dB L_{dn}, or 3.0 dB or more where existing noise levels are between 60-65 dB L_{dn}.

According to Tables 3.11-4 and 3.11-5 in Section 3.11, the maximum noise level increase due to Project traffic is predicted to be 1.7 dBA L_{dn}. For this segment of Union Road, the existing ambient noise level at the nearest sensitive receptor is 63.4 dBA. Therefore, an increase of 3 dB would be required to be considered a significant impact. All other roadway segments analyzed in the traffic study do not exceed the Proposed General Plan Standards for significant impacts. As a result, the Project, in combination with other nearby existing and reasonably foreseeable projects, would not generate a significant cumulative impact related to this topic area. Therefore, the Project would make a **less than cumulatively considerable** contribution to any cumulative impact relative to this topic.

Operational Noise Increases

The proposed Project would include typical residential noise sources which would be compatible with the adjacent existing residential uses (a.k.a. neighborhood traffic, yard equipment, truck deliveries, garbage collected, etc.). Proposed neighborhood parks are located internal to the Project site and would not impact off-site residential uses. Therefore, operational noise by the proposed Project would not combine with past, existing, or foreseeable future projects to create a significant cumulative operational noise impact.

With Mitigation Measure 3.11-1 to 3.11-7, the Project also would have a **less than cumulatively considerable** contribution to any significant cumulative impact relative to this topic.

Construction Noise

As indicated in Table 3.11-6 of Section 3.11: Noise, activities involved in construction would generate maximum noise levels ranging from 82 to 96 dB L_{max} at a distance of 50 feet. Noise would also be generated during the construction phase by increased truck traffic on area roadways. A significant Project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration and would likely occur primarily during daytime hours. Mitigation Measures 3.10-1A and 3.10-1B require that construction activities adhere to the Municipal Code with respect to hours of operation, and that all equipment be fitted with factory equipped mufflers. With implementation of Mitigation Measure 3.11-1 to 3.11-7, the Project would make a l**ess than cumulatively considerable contribution to** impacts related to construction noise.

Vibration

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural damage.

With the exception of vibratory compactors, construction vibration levels anticipated for the Project are less than the 0.2 in/sec threshold at a distance of 25 feet. Use of vibratory compactors within 26 feet of the adjacent buildings could cause vibrations in excess of 0.2 in/sec. Sensitive receptors which could be impacted by construction-related vibrations, especially vibratory compactors/rollers, are located approximately 10-15 feet, or further, from the Project site. However, implemention of

Mitigation Measure 3.11-7 would ensure that any compaction required less than 26 feet from the adjacent residential structures shall be accomplished by using static drum rollers which use weight instead of vibrations to achieve soil compaction. As an alternative to this requirement, pre-construction crack documentation and construction vibration monitoring could be conducted to ensure that construction vibrations do not cause damage to any adjacent structures. As a result, the Project, in combination with other nearby existing and reasonably foreseeable projects, would not generate a significant cumulative impact related to this topic area. Therefore, the Project would have a **less than cumulatively considerable** contribution to any significant cumulative impact relative to this topic.

Airport Noise

There are no airports within two miles of the Project vicinity. Therefore, this impact is not applicable to the proposed Project.

Mitigation Measures

Implement ***Mitigation Measures 3.11-1 through 3.11-7.***

PUBLIC SERVICES AND RECREATION

The cumulative setting for public service and recreation would include all areas covered in the service areas of the City of Manteca Fire Department, Police Department, Parks and Recreation Department, the Manteca Unified School District, and any other relevant public services. The plan method is used to analyze cumulative impacts related to public services and recreation.

Impact 4.18: Cumulative Impact on Public Services and Recreation (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

Implementation of the proposed Project would contribute toward an increased demand for public services and facilities within the City of Manteca. The proposed Project would be subject to all fees that are paid toward the enhancement of public services within the region. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would assist in maintaining existing fire, police, schools, and park services. Other foreseeable future projects would be required to pay similar impact fees and taxes.

Cumulative growth that would occur within San Joaquin County and other cities within San Joaquin County over the life of the proposed Project will result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. As the demand for public services and recreation increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth within the cumulative analysis area.

New public services and recreation facilities will be needed to serve growth contemplated in the City of Manteca's General Plan. The environmental effect of providing the public services and recreation is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as they are unknown. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects planned for under the existing General Plan. Any future development in the City of Manteca would be required to comply with regulations, policies, and standards included in the existing General Plan, and would be subject to CEQA review as appropriate. The City's existing General Plan includes a range of policies and actions to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City and appropriate service agency, that new development funds its fair share of services, and that the effects of new development of parks, schools, and other public service facilities are appropriately considered. Payment of applicable impact fees, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the future projects, would ensure that the City maintains acceptable service ratios and that the expansion of public service facilities are adequately funded. As a result, the Project, in combination with other nearby existing and reasonably foreseeable projects, would not generate a significant cumulative impact related to this topic area. The proposed Project's incremental contribution to any cumulative public services and recreation impacts would be **less than cumulatively considerable**.

TRANSPORTATION AND CIRCULATION

A Cumulative Conditions analysis was performed by Fehr & Peers to identify potential impacts of the Project under Cumulative AM and PM peak hour conditions. The analysis reflects long-term development in the City of Manteca and other nearby jurisdictions using the City of Manteca / San Joaquin Council of Governments Travel Demand Forecasting (TDF) Model. See Impact 3.13-1 for the Cumulative Development Project daily vehicle-miles-traveled (VMT) discussion.

Impact 4.19: Under Cumulative conditions, Project implementation would result in VMT increases that are greater than 85 percent of Baseline conditions (Cumulatively Considerable Contribution and Significant and Unavoidable)

Table 3.13-15 in Section 3.13 presents the established Baseline Citywide VMT per single family residential household and the Cumulative Development Project VMT per household. Under Cumulative Conditions, the proposed Project would generate an estimated average of 94.8 home-based VMT per single family household (5.2 percent below the Cumulative city-wide average), and 73.9 home-based VMT per multi-family household (1 percent above the Cumulative city-wide average). The proposed Project would generate fewer home-based VMT per single family and multi-family household compared to under Baseline conditions due to the fact that in the Cumulative Year, the number of jobs and the amount of commercial, retail, and recreational development in the City is anticipated to increase and residents would be able to travel shorter distances to access these types of land uses.

In August 2021, the California Air Pollution Control Officers Association (CAPCOA) released the Draft Handbook for Analyzing Greenhouse Gas (GHG) Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (GHG Handbook). Mitigation Measure 3.13-1, as provided in Section 3.13: Transportation and Circulation, summarizes transportation measures with VMT-reducing benefits that may be applicable at the project or community level in the City of Manteca. The proposed Project would be required to implement all feasible measures contained in Mitigation Measure 3.13-1, that are applicable to be implemented at the improvement plan stage of development. However, it should be noted that some of these strategies such as increased land use density or diversity would not be feasible for the Project site because it would change the nature of the Project. Furthermore, other strategies contained in Mitigation Measure 3.13-1 may not be deemed feasible for other reasons, such as due to financial infeasibility, or would not be possible to implement at the improvement plan stage (such as increasing residential density).

Because the development would generate vehicle travel exceeding 15 percent below the established city-wide average under Existing and Cumulative Conditions, implementation of the proposed Project would make a **cumulatively considerable contribution** to a significant cumulative VMT impact and thus is considered **a significant and unavoidable** impact.

Impact 4.20: Under Cumulative conditions, the proposed Project would not conflict with a program, plan, policy or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

The proposed Project is consistent with the Manteca Active Transportation Plan (ATP). The proposed Project includes bicycle and pedestrian improvements consistent with those required in the ATP. The proposed Project will construct the continuation of the Class I Tidewater Bikeway. The proposed Project will also construct sidewalks on internal streets, providing adequate connections to and throughout the site for pedestrians. As a result, the Project, in combination with other nearby existing and reasonably foreseeable projects, would not generate a significant cumulative impact related to this topic area. The Project would make a **less than cumulatively considerable contribution** to any cumulative impacts related to this topic.

Impact 4.21: Under Cumulative conditions, proposed Project implementation may increase hazards due to a design feature, incompatible uses, or inadequate emergency access (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

Access for the proposed development project would be at Union Road/Shady Pines Street, SR 99 Frontage Road/Shady Pines Street, and Union Road/Duluth Way. The preliminary site plan indicates adequate emergency access would be provided and there do not appear to be any geometric hazards. All intersections and street sections would be reviewed by the City of Manteca and designed to comply with typical City standards. With consideration to pedestrian safety, Fehr & Peers recommends that Union Road/Shady Pines Street be constructed as a signalized intersection under Existing Plus Project and Cumulative Plus Project Conditions. SR 99 Frontage Road/Shady

Pines Street and Union Road/Duluth Way intersections may be constructed as side-street stop control intersections. All project access intersections, internal intersections, and internal roadways are anticipated to be carefully designed to ensure they can accommodate emergency vehicles, subject to approval of the City of Manteca.

Additionally, the proposed development Project would not conflict with any program, plan, ordinance, or policy addressing the circulation system, substantially increase hazards due to a geometric feature, or result in inadequate emergency access. As a result, the Project, in combination with other nearby existing and reasonably foreseeable projects, would not generate a significant cumulative impact related to this topic area. The Project would make a **less than cumulatively considerable contribution** to any cumulative impacts related to this topic.

UTILITIES

The cumulative setting for utilities includes San Joaquin County, which would include all areas covered in the service areas of the City's wastewater system, water system, stormwater system, and the solid waste collection and disposal services.

Impact 4.21 Cumulative Impact on Wastewater Utilities (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

The City of Manteca owns and operates a wastewater collection, treatment, and disposal system, and provides sewerage service to the City of Manteca and the City of Lathrop. On April 17, 2015, the RWQCB adopted Waste Discharge Requirements Order No. R5-2015-0026 NPDES NO. CA0081558, prescribing waste discharge requirements for the City of Manteca Wastewater Quality Control Facility (WQCF) and allowing expansion of the plant up to 17.5 mgd.

The City of Manteca's wastewater treatment system is currently in compliance with the WDR requirements of Order No. R5-2015-0026 NPDES NO. CA0081558. The wastewater treatment system options covered under this Order include: City of Manteca Wastewater Quality Control Facility (WQCF) including the collection system, basin/disposal fields, discharge to the San Joaquin River, and recycling conveyance and irrigation system. The development of the proposed Project would not exceed the wastewater discharge requirements in this Order as described under Impact 3.15-1 in Section 3.15. Other foreseeable project would be subject to the same requirements, and the Project would not combine with existing and foreseeable future projects to create a significant cumulative impact on wastewater utilities.

The wastewater collection and conveyance system that will serve the proposed Project will consist of engineered infrastructure consistent with the City's existing infrastructure requirements. Sizing of existing infrastructure in the City varies based on location, but generally includes gravity sewers and force mains ranging in size from 8 to 24 inches, and pump stations. The existing facilities have undergone environmental review and have waste discharge permits from the State.

New wastewater collection and conveyance infrastructure needed for the proposed Project will require trenching/excavation of earth, and placement of pipe within the trenches at specific locations, elevations, and gradients. The applicant will refine the wastewater collection/conveyance infrastructure design through the development of improvements plans which undergo review by the Public Works Department to ensure consistency with the City's engineering standards. This improvement plan process will include full engineering design (i.e., location, depth, slope, etc.) of all conveyance infrastructure as well as a review of new sewer pump stations and new force mains if needed. Ultimately, the sanitary sewer collection system will be an underground collection system installed as per the City of Manteca standards and specifications. Sanitary sewer disposal and treatment will be to the City of Manteca WQCF. Other past projects were subject to similar City review and foreseeable future projects also would be similarly reviewed.

The City's existing General Plan designated the Development Area as LDR and Park and therefore anticipated development and potential annexation into the City. As a result, the Project, in combination with other nearby existing and reasonably foreseeable projects, would not generate a significant cumulative impact related to this topic area. The Project would make a **less than cumulatively considerable** contribution to any cumulative impact relative to this topic.

Impact 4.22: Cumulative Impact on Water Utilities (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

The proposed Project would require extension of offsite water conveyance infrastructure to the Project site for water service. All offsite water utility improvements will be in or adjacent to existing roadways adjacent to the Project site, thereby limiting any potential impact to areas that were not already disturbed. Construction of the potable water infrastructure would not have the potential to induce growth beyond what is proposed because the infrastructure is not oversized to accommodate additional projects or growth.

The proposed Project would require the construction of new onsite water infrastructure for water service. All onsite water utility improvements will be within existing agricultural lands, the impacts of which are discussed in Section 3.2, Agricultural Resources. Construction of the onsite water infrastructure would not result in the extension of water utilities to an area of the City not currently served by water utilities, and as such, would not have the potential to indirectly induce population growth.

The proposed Project would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service, except for a new well that is planned for within the boundary of the Project site. The City has adequate water supplies to support existing demand in the City in addition to the proposed Project under average daily and maximum daily demand conditions.

Manteca Water Demand: City potable and raw water demand in 2020 was approximately 16,253 AF, which may have been caused by a higher daytime population than normal due to stay-at-home orders and mandated closure of non-essential businesses in response to the COVID-19 pandemic.

The projected water demand for future land use area for the buildout of the General Plan areas, which includes the Proposed Project in the City's General Plan Update, was calculated by multiplying the projected land uses by the unit water demand factor. The resulting water demand projection was 17,971 AFY.

Therefore, the projected potable and raw water demand at buildout of the General Plan is 34,224 AFY (16,253 AFY existing plus 17,971 AFY projected). Buildout of the General Plan planning area is projected to occur shortly before 2050.

The City's existing and projected potable and raw water demand is shown in Table 4.0-3. The 2020 data reflect actual 2020 demand.

TABLE 4.0-3: EXISTING AND PROJECTED TOTAL WATER DEMAND IN NORMAL YEARS, AFY

	2020, CURRENT	*2025*	*2030*	*2035*	*2040*	*2045*
Total Water Demand	16,253	18,480	21,012	23,891	27,164	30,885

SOURCE: 2020 WATER DEMAND PER CITY OF MANTECA, PROJECTED GROWTH FROM WEST YOST

The City's projected water demand at buildout (based on existing water demand and buildout of the General Plan Update, and the projected water demand of the Proposed Project) is summarized in Table 4.0-4. The City's preliminary water demand projections for future developments with approved water supply, as of March 2021, have been updated by West Yost to be based on water use factors that were adjusted for SB X7-7. These revised demand projections for future developments within the City are included in Appendix A of the WSA.

TABLE 4.0-4: CITY OF MANTECA PROJECTED BUILDOUT WATER DEMAND, AFY

PROPOSED LAND USE	*AREA, ACRES(A)*
Existing 2020 Water Demand	16,253
2040 General Plan Horizon Water Demand[1]	10,911
2045 Water Demand[2]	3,721
Buildout of General Plan[3]	3,339
Total Water Demand	**34,224**

SOURCES: 2020 WATER DEMAND PER CITY OF MANTECA, PROJECTED GROWTH FROM WEST YOST, CITY OF MANTECA GENERAL PLAN WATER SUPPLY REPORT. FEBRUARY 2021

Notes: [1]2040 General Plan Horizon Water Demand represents incremental increase in water demand beyond existing demand.

[2] 2045 Water Demand represents incremental increase in water demand beyond existing and 2040 General Plan demand.

[3] General Plan Buildout represents incremental increase in water demand beyond the existing, 2040 General Plan, and 2045 water demand.

Projected Water Demand for the Proposed Project: The projected water demand for the proposed Project is shown in Table 4.0-5. The total projected annual potable water demand for the Project is projected to be 521.5 AFY.

The Proposed Project does not intend to use recycled water at this time. The City currently uses undisinfected secondary effluent to irrigate fodder crops in the land adjacent to the City's wastewater treatment plant. Tertiary treated recycled water is used for dust control at construction sites and for irrigation at the Great Wolf Lodge. Although a Recycled Water Master Plan is being prepared with the intent that the City would use recycled water to offset potable water demands for outdoor uses in the future, recycled water infrastructure is not planned to be constructed in time to serve the buildout of the Proposed Project. Therefore, recycled water supplies are not assumed for use at the proposed Project in the WSA.

TABLE 4.0-5: PROJECTED WATER DEMAND FOR BUILDOUT OF THE PROPOSED PROJECT

LAND USE	*GROSS AREA (ACRES)*	*DWELLING UNITS (DU)*	*WATER USE FACTOR*		*POTABLE WATER DEMAND (AFY)*
Low Density Residential (LDR)	152.36	715	477[(A)]	gpd/DU	382.3
High Density Residential (HDR)	8.76	200	228[(B)]	gpd/DU	51.0
Park	14.55	--	3,600	gpd/acre	58.7
Subtotal	*175.67*	*915*			*492.0*
				UAFW[(c)]	29.5
				Total Demand	***521.5***

NOTES: GPD/AC = GALLONS PER DAY PER ACRES, GPD/DU = GALLONS PER DAY PER DWELLING UNIT, AFY = ACRE-FEET PER YEAR.
(A) BASED ON LDR WATER USE FACTOR 5,200 GPD/ACRE AND AN AVERAGE DENSITY OF 22.8 DU/ACRE.
(B) BASED ON HDR WATER USE FACTOR OF 2,240 GPD/DU AND AN AVERAGE DENSITY OF 4.7 DU/ACRE.
(C) BASED ON 6 PERCENT OF PROJECT WATER DEMANDS.
SOURCE: NORTH MANTECA ANNEXATION #1 PROJECT WATER SUPPLY ASSESSMENT (WEST YOST ASSOCIATES, 2021).

Water demands for the proposed Project will be served using the City's existing and future portfolio of water supplies. The inclusion of existing and planned future supplies is specifically allowed by the Water Code:

> *Water Code section 10631(b): Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

The applicants for the proposed Project will provide their proportionate share of required funding to the City for the acquisition and delivery of treated potable water supplies to the Project site.

Determination of Water Supply Sufficiency Based on the Requirements of SB 610: Water Code section 10910 states:

> *10910(c)(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.*

Pursuant to Water Code section 10910(c)(4) and based on the technical analyses described in the WSA, the total projected water supplies determined to be available for the Proposed Project during Normal, Single Dry, and Multiple Dry years during a 20-year projection will meet the projected water demand associated with the Proposed Project, in addition to existing and planned future uses.

A comparison of the City's projected potable and raw water supplies and demands is shown in Table 4.0-6 for Normal, Single Dry, and Multiple Dry Years. Demand within the City's service area is not expected to exceed the City's supplies in any Normal year between 2020 and 2045. For purposes of the WSA, no demand reductions are assumed during dry years. With this assumption, the City's water demands are not expected to exceed water supplies in Single Dry Years or Multiple Dry Years.

The technical analyses shows that the total projected water supplies determined to be available during Normal, Single Dry, and Multiple Dry years during a 20-year projection will meet the projected water demand associated with the proposed Project in addition to existing and planned future uses and the Project, in combination with other nearby existing and reasonably foreseeable projects, would not be expected to generate a significant cumulative impact. The proposed Project would not result in insufficient water supplies available to serve the Project from existing entitlements and resources. The proposed Project's incremental contribution to this topic area also would be **less than cumulatively considerable**.

TABLE 4.0-6: SUMMARY OF POTABLE AND RAW WATER DEMAND VERSUS SUPPLY DURING HYDROLOGIC NORMAL, SINGLE DRY, AND MULTIPLE DRY YEARS

Hydrologic Condition		Supply and Demand Comparison, AFY				
		2025	2030	2035	2040	2045
Normal Year						
Available Potable and Raw Water Supply(a)		23,260	25,247	27,569	37,284	40,457
Total Water Demand(b)		18,480	21,012	23,891	27,164	30,885
Potential Surplus (Deficit)		4,780	4,235	3,678	10,120	9,572
Supply Shortfall, Percent of Demand		-	-	-	-	
Single Dry Year						
Available Potable and Raw Water Supply(a)		23,260	25,247	27,569	37,284	40,457
Total Water Demand(b)		18,480	21,012	23,891	27,164	30,885
Potential Surplus (Deficit)		4,780	4,235	3,678	10,120	9,572
Supply Shortfall, Percent of Demand		-	-	-	-	-
Multiple Dry Year						
Multiple Dry Year 1	Available Potable and Raw Water Supply(a)	23,260	25,247	27,569	37,284	40,457
	Total Water Demand(b)	18,480	21,012	23,891	27,164	30,885
	Potential Surplus (Deficit)	4,780	4,235	3,678	10,120	9,572
	Supply Shortfall, Percent of Demand	-	-	-	-	-
Multiple Dry Year 2	Available Potable and Raw Water Supply(a)	23,260	25,247	27,569	37,284	40,457
	Total Water Demand(b)	18,480	21,012	23,891	27,164	30,885
	Potential Surplus (Deficit)	4,780	4,235	3,678	10,120	9,572
	Supply Shortfall, Percent of Demand	-	-	-	-	-
Multiple Dry Year 3	Available Potable and Raw Water Supply(a)	21,409	24,313	27,552	33,376	37,628
	Total Water Demand(b)	18,480	21,012	23,891	27,164	30,885
	Potential Surplus (Deficit)	2,929	3,301	3,661	6,212	6,743
	Supply Shortfall, Percent of Demand	-	-	-	-	-
Multiple Dry Year 4	Available Potable and Raw Water Supply(a)	21,409	24,313	27,552	33,376	37,628
	Total Water Demand(b)	18,480	21,012	23,891	27,164	30,885
	Potential Surplus (Deficit)	2,929	3,301	3,661	6,212	6,743

	Supply Shortfall, Percent of Demand	-	-	-	-	-
Multiple Dry Year 5	Available Potable and Raw Water Supply(a)	23,260	25,247	27,569	37,284	40,457
	Total Water Demand(b)	18,480	21,012	23,891	27,164	30,885
	Potential Surplus (Deficit)	4,780	4,235	3,678	10,120	9,572
	Supply Shortfall, Percent of Demand	-	-	-	-	-

(A) SURFACE WATER SUPPLY FROM TABLE 6-2 PLUS ASSUMED GROUNDWATER SUPPLY FROM TABLE 6-3.
(B) EQUALS THE CITY'S TOTAL PROJECTED POTABLE AND RAW WATER DEMAND (FROM TABLE 5-1 AND TABLE 5-4).

Impact 4.23: Cumulative Impact on Stormwater Facilities (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

The proposed Project includes storm drainage improvements. Onsite storm drainage would be installed to serve the proposed Project. Discharge from the basins will be conveyed through controlled flow pumping facilities to existing City of Manteca and SSJID dual use main storm drain laterals. It is noted that the locations of the proposed detention basins are conceptual and will be finalized during the design of Improvement Plans.

The proposed public storm drainage and water quality system is planned to function independently from surrounding developments. An internal layout of stormwater collection pipes with various sizes, as necessary, will be installed within the Development Area. A system of drainage swales may be included to treat and convey collected stormwater. All on-site storm drainage runoff will be collected through drain inlets in the landscaped areas and catch basins along the streets and within properties and conveyed via surface swales and underground trunk lines to the detention and water quality basins. The conveyance systems and detention basins may include facilities designed to address water quality standards and requirements. Discharge from the basins will be conveyed through controlled flow pumping facilities to existing City of Manteca and SSJID dual use main storm drain laterals. The duration of the discharge will comply with City of Manteca standards. The water quality detention basins will be designed to comply with SWRCB and City of Manteca specifications and standards.

Final engineering of the storm drainage system will be accomplished through the improvement plan preparation of each phase. Storm drainage infrastructure to serve the proposed Project will include an underground piped drainage system, detention park basins, and pumps as needed. The drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters. The design of such infrastructure considers the drainage volume that flows through the drainage from the entire watershed to ensure that there isn't flooding. As a result, the Project, in combination with other nearby existing and reasonably foreseeable projects, would not generate a significant cumulative impact related to this topic area. Implementation of the proposed Project would make a **less than cumulatively considerable** contribution to any cumulative impact relative to this topic.

Impact 4.24: Cumulative Impact on Solid Waste Facilities (Less Than Significant Cumulative Impact; Less than Cumulatively Considerable Contribution)

Solid waste generated in the City is disposed primarily at the Forward Landfill. The City's projected increase in solid waste generation associated with future buildout of the Project is within the permitted capacity of the Forward Sanitary Landfill expansion. The vast majority of landfill disposed from the City of Manteca went to Forward Sanitary Landfill.[2] Other landfills that received waste from the City of Manteca include:

- Lovelace Materials Recovery Facility and Transfer Station
- San Joaquin County Hazardous Waste
- Foothill Sanitary Landfill
- North County

Forward Sanitary Landfill has a remaining capacity of 23,700,000 cubic yards, and has a current maximum permitted throughput of 8,668 tons per day. This landfill originally had a cease operation date in the year 2020. A 17.3-acre expansion was approved in January of 2020 inside the landfill's existing boundaries along Austin Road east of Stockton Metropolitan Airport. The lifespan of the landfill will extend from 2030 to 2036 and an additional 8.2 million cubic yards of waste will be processed on two sites, an 8.7-acre parcel in the northeast corner and an 8.6-acre parcel on the south end of the property. The City will need to secure a new location or expand existing facilities when the Forward Landfill is ultimately closed. There are several options that the City will have to consider for solid waste disposal at that time, which is estimated to be 2036, including the construction of new facilities or expansion of existing facilities.

At the closure of the Forward Landfill, the City can potentially utilize the Foothill Landfill and the North County Landfill as locations for solid waste disposal. The permitted maximum disposal at the Foothill Landfill is 1,500 tons per day and the North County Landfill is 825 tons per day. The remaining capacity of these landfills include 125 million cubic yards of solid waste at the Foothill Landfill, with an estimated cease operation date of 2054, and 35.4 million cubic yards of solid waste at the North County Landfill, which has an estimated cease operation date of 2035. The addition of solid waste associated with the proposed Project to the Foothill Landfill and North County Landfill would not exceed the combined landfills' remaining capacity of 160.4 cubic yards.

The proposed Project would be required to comply with applicable state and local requirements, including those pertaining to solid waste, construction waste diversion, and recycling. The addition of the volume of solid waste associated with the proposed Project, approximately 4.58 tons per day at total buildout, is within the total permitted capacity of landfills able to serve the Project. Moreover, given the ample maximum disposal capacity of the nearby landfills (as described above), the cumulative development anticipated is within the total permitted capacity of landfills able to serve cumulative development. As a result, the Project, in combination with other nearby existing and reasonably foreseeable projects, would not generate a significant cumulative impact related to this topic area. The proposed Project's incremental contribution to any cumulative solid waste impacts would be **less than cumulatively considerable**.

[2] Note: data provided by CalRecycle, based on information provided by County disposal reports.

WILDFIRE

Impact 4.25: Cumulative impact Related to Wildfire (Less than Cumulatively Considerable Contribution)

The Project Site is not located in or near any State Responsibility Areas and there are no lands classified as very high fire hazard severity zones within or near the Project Site. Therefore, the proposed Project would have **no impact** related to wildfire risks associated with lands in or near State Responsibility Areas or lands classified as very high fire hazard severity zones. The Project's incremental contribution to any cumulative wildfire impacts therefore would be **less than cumulatively considerable.**

4.2 GROWTH-INDUCING EFFECTS

INTRODUCTION

Section 15126.2(e) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as:

> *The ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth…It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand *(Napa Citizens for Honest Government v. Napa County Board of Supervisors* (2001) 91 Cal.App.4th 342*)*. Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply in an area where water service historically limited growth could be considered growth-inducing.

The CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

The proposed Project could induce commercial or industrial growth in the City of Manteca and/or surrounding environs, since it provides additional housing opportunities in the City of Manteca. Such growth would likely occur over a long-term time horizon, and it is not clear how much commercial and/or industrial growth would occur due to development of the proposed Project (i.e., 915 residential units). The environmental effects of such indirectly induced growth would likely require separate CEQA analysis (such as EIRs) for each new individual commercial and/or industrial development. Moreover, it is far from clear that the Project would induce growth at all, since the State is currently in a housing crisis and the development of a residential project such as the proposed Project could merely provide housing for individuals working nearby (who, without the development of the proposed Project, could have a longer commute). It should also be noted that the proposed Project is consistent with the City's proposed General Plan Update that is currently not yet adopted.

Additionally, the proposed Project could lead to service, facility, or infrastructure demands in excess of existing and planned growth. However, adequate service, facility, and infrastructure supply is available to the proposed Project, as described elsewhere in this EIR (see Section 3.14: Utilities for detail).

Given the historical and current population, housing, and employment trends, growth in the City, as well as the entire state, is inevitable. The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, California is expected to attract more than one third of the country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in Manteca prior to buildout of the proposed Project, growth will continue to occur based primarily on the demand of the housing market and demand for new commercial, industrial, and other non-residential uses. As future development occurs in Manteca, new roads, infrastructure, and services would be necessary to serve the development and this infrastructure would accommodate planned growth. However, growth associated with the proposed Project would remain within the general growth levels projected statewide and would not be anticipated to exceed any applicable growth projections or limitations that have been adopted to avoid an environmental effect. The proposed Project is intended to help the City to accommodate the City's fair share of statewide housing needs, based on regional numbers provided by the California Department of Housing and Community Development on a regular basis (every five to eight years).

The proposed Project also includes a variety of project features, as well as mitigation measures, that would reduce the Project's strain on the local environment and infrastructure, including reductions in natural gas and overall energy use. Further detail is provided in Section 3.7: Greenhouse Gases, Climate Change, and Energy. Chapters 3.1 through 4.0 of this EIR provide a discussion of environmental effects associated with development of the proposed Project.

4.3 SIGNIFICANT IRREVERSIBLE CHANGES

LEGAL CONSIDERATIONS

CEQA Guidelines Sections 15126(c) and 15126.2(d) and Public Resources Code Sections 21100(b)(2) and 21100.1(a) require that the EIR include a discussion of significant irreversible environmental changes which would be caused by a proposed action should it be implemented. CEQA Guidelines Section 15126.2(d) discusses three categories of potentially significant irreversible environmental effects that should be considered, as follows:

- A large commitment of nonrenewable resources during the initial and continued phases of a project that could make removal or nonuse thereafter unlikely;
- Primary or secondary impacts of a project that would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- Irretrievable commitments of resources could generate unjustified consumption of resources.

Determining whether the proposed Project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Large Commitment of Nonrenewable Resources

Consumption of nonrenewable resources refers to the loss of physical features within the natural environment, including the conversion of agricultural lands, loss of access to mining reserves, and nonrenewable energy use. The Project site has nonrenewable resources, including biological resources and agricultural resources.

As discussed in Section 3.4, Biological Resources, all impacts would be less than significant or less than significant with implementation of mitigation measures. As a result, the proposed Project will minimize the potential for impacts to the nonrenewable resources in the Planning Area, including biological resources and water resources, to the greatest extent feasible. More detailed and focused discussions of potential impacts to these nonrenewable resources are contained throughout this Draft EIR.

Nonrenewable agricultural resources such as agricultural land, farmland, and agricultural soils, would be converted during the construction and operation of the Project. The City's General Plan includes a variety of policies that seek to conserve and protect agricultural resources. These include policies that encourage the development of vacant lands within City boundaries prior to conversion of agricultural lands and ensure that urban development near existing agricultural lands will not unnecessarily constrain agricultural practices or adversely affect the economic viability of nearby agricultural operations. Nevertheless, as discussed in Section 3.2, Agricultural Resources, impacts related to the conversion of Important Farmland were determined to be significant and unavoidable. While the proposed Project will contribute fees toward the purchase of conservation easements on agricultural lands through the City's agricultural mitigation fee program and the SJMSCP (as required by Mitigation Measure 3.2-1), those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with Project implementation.

Further, the proposed Project would utilize nonrenewable energy resources during its construction and operation, including natural gas, non-renewable generated electricity, and gasoline and diesel fuel. However, the usage of such nonrenewable energy resources would largely be limited to on-road mobile vehicles that require gasoline. The usage of natural gas by the Project would be limited to its usage for natural gas stove cooktops and outdoor BBQs and offset by the on-site rooftop solar PV associated with the proposed Project; further, the electricity grid is becoming increasingly renewable over time. The number of electric vehicles also is predicted to increase over time due to state regulations.

Irretrievable Commitments to Future Similar Uses/Irreversible Physical Changes

Implementation of the proposed Project would result in development of approximately 915 residences and associated features. Such development would result in irretrievable commitments by introducing development onto sites that are presently undeveloped.

The conversion of agricultural lands to urban uses would result in an irretrievable loss of agricultural land, wildlife habitat, and open space.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for development and infrastructure installation associated with uses envisioned by the proposed Project. Buildout of the proposed Project would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the uses accommodated by the proposed Project. The introduction of new residential uses to the Project site will result in an increase energy demand associated with building operations, vehicle travel, equipment operation, and other activities. Fossil fuels are an important source of energy and the Project will increase consumption of available supplies, including gasoline and diesel fuel, and natural gas. These energy resource demands relate to initial construction, operation, maintenance and the transport of people and goods to and from the Project site that would occur with implementation of the proposed Project.

Additionally, development will physically change the environment in terms of aesthetics, air emission, noise, traffic, open space, and natural resources. These physical changes are irreversible after development occurs. Therefore, the proposed Project would result in changes in land use within the Project site that would commit future generations to these uses.

Irreversible Damage from Environmental Accidents

The proposed Project does not involve uses in which irreversible damage could result from any potential environmental accidents associated with future buildout of the Project site. Future development of the proposed Project may involve the transportation, use, and/or disposal of hazardous materials. However, potential environmental accidents would not result in irreversible damage because the future uses in the Project site would be subject to applicable requirements of Federal, State, and local regulations and policies. Additionally, hazardous materials are typically used in industrial, and commercial uses, as well as residential uses. Future uses may involve the transport and disposal of such materials from time to time. Future activities may involve equipment or construction activities that use hazardous materials (e.g., coatings, solvents and fuels, and diesel-fueled equipment), and the potential for cleanup of sites with known hazardous materials. While hazardous materials may be associated with industrial activities, hazardous materials may also be associated with the regular cleaning and maintenance of residential and other less intense uses.

The proposed Project does not propose any uses that would cause irreversible damage.

Phased Consumption of Resources

Buildout of the proposed Project would use energy resources for the operation of buildings (electricity and natural gas), for on-road vehicle trips (e.g., gasoline and diesel fuel), and from off-road construction activities (e.g., diesel fuel) associated with buildout of the proposed Project. Each of these activities would require the use of energy resources. Buildout would also require commitment of other resources, as discussed above. Developers of individual projects within the Planning Area would be responsible for conserving energy, to the extent feasible, and would rely heavily on reducing per capita energy consumption to achieve this goal, including through Statewide and local measures. Additionally, developers would have to comply with mitigation measures contained within this EIR that reduce energy usage, among other energy-saving measures.

Buildout of the proposed Project would be in compliance with all applicable federal, state, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the Statewide RPS to increase the proportion of renewable energy (e.g., solar and wind) within its energy portfolio. PG&E is expected to achieve at least 60% renewables by 2030, and 100 percent zero-carbon electricity by 2045 (in compliance with SB 100 and SB 1020). Additionally, energy-saving regulations, including the latest State Title 24 building energy efficiency standards (“part 6”), would be applicable to the proposed project. Other Statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g., the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Furthermore, additional project-specific sustainability features in future individual development projects could further reduce energy consumption of individual projects.

PG&E, the electricity and natural gas provider to the site, maintains sufficient capacity to serve the Project site. The City of Manteca would comply with all existing energy standards in implementing the proposed Project, and would not result in significant adverse impacts on energy resources.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Sections 15126(b) and 15126.2(c) and Public Resources Code Section 21100(b)(2)(A) require an EIR to discuss significant environmental effects that cannot be avoided if the proposed project is implemented. CEQA Guidelines Section 15093 allows a decision-making agency to determine if the benefits of a proposed project outweigh the unavoidable adverse environmental impacts of implementing that project. If the specific economic, legal, social, technological, or other benefits, include region-wide or statewide environmental benefits, of a proposed project outweigh the unavoidable adverse environmental effects, the lead agency can adopt a "Statement of Overriding Considerations," supported by substantial evidence, and approve the project.

The following significant and unavoidable impacts of the proposed Project are discussed in Sections 3.1, 3.2, and 3.13, and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impacts identified below:

- Impact 3.1-1: Project implementation could result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character;
- Impact 3.2-1: The proposed Project has the potential to result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses;
- Impact 3.7-1: Project implementation could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Impact 3.7-2: Project implementation could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
- Impact 3.13-1: Project implementation could result in VMT increases that are greater than 85 percent of Baseline conditions;
- Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region;
- Impact 4.4: Cumulative Impact on Agricultural Resources;
- Impact 4.9: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions; and

- Impact 4.19: Under Cumulative conditions, Project implementation would result in VMT increases that are greater than 85 percent of Baseline conditions.

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5.1 CEQA REQUIREMENTS

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) analyze a reasonable range of feasible alternatives that meet most or all project objectives while avoiding or substantially lessening one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

PROJECT OBJECTIVES

Section 15124(b) of the CEQA Guidelines requires that an EIR include a statement of the project objectives that "include the underlying purpose of the project and may discuss the project benefits." The following objectives have been identified for the Project:

- Provide residential housing opportunities that are visually attractive and sufficient to accommodate the future housing demand in Manteca.
- Provide a mixture of residential product types that collectively provide for local and regional housing.
- Provide infrastructure and park space that meets City standards, is integrated with existing and planned facilities and connections, and increases recreation opportunities for existing and future residents of the City.
- Establish a logical phasing plan designed to ensure that each phase of development would include necessary public improvements required to meet City standards.
- Annex the three Annexation Sub-Areas in order to avoid the creation of islands. Annexation of these areas would establish a logical and orderly city limit line that promotes the efficient extension of municipal services.
- Allow all existing property owners with existing and potentially legal non-conforming uses located in the Non-Development Areas (SubArea 1, 2, and 3) to continue to use and enjoy their properties in the same manner as prior to annexation.

ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation (NOP) was circulated to the public October 22, 2021 to solicit recommendations for a reasonable range of alternatives to the proposed Project. Additionally, a public scoping meeting was held during the public review period November 9, 2021 to solicit recommendations for a reasonable range of alternatives to the proposed Project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review process.

The City of Manteca considered alternative locations early in the public scoping process. The City's key considerations in identifying an alternative location were as follows:

- Is there an alternative location where significant effects of the Project would be avoided or substantially lessened?
- Is there a site available within the City's Sphere of Influence with the appropriate size and characteristics such that it would meet the basic Project objectives?

The City's consideration of alternative locations for the Project included a review of previous land use planning and environmental documents in Manteca including the General Plan. The search included a review of land in Manteca that is located within the Sphere of Influence, suitable for development, available for acquisition, and not already approved or pending development. It was found that there are numerous approved projects and proposed projects that are currently under review in Manteca. These approved and proposed projects are not available for acquisition by the Project applicant and are not considered a feasible alternative for the Project applicant. Additionally, much of the undeveloped land located to the north of the Project site is located within a 200-year flood plain, which, if considered as an alternative location, would place housing and structures that would impede/redirect flows within a 200-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. Therefore, much of the undeveloped land located to the north of the Project site would not be considered a feasible alternative site location. Based on this, the City has found that there are no feasible alternative locations that exist within the City's Sphere of Influence with the appropriate size and characteristics that would meet the basic Project objectives and avoid or substantially lessen a significant effect. The City has determined that alternative locations outside the Sphere of Influence would not be feasible because an expansion of the Sphere of Influence would induce unplanned growth and cause impacts greater than development on the Project site. For these reasons, the City of Manteca determined that there are no feasible alternative locations.

In addition, as discussed in *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553 (*Goleta II*), where a project is consistent with an approved general plan, no off-site alternative need be analyzed in the EIR. The EIR "is not ordinarily an occasion for the reconsideration or overhaul of fundamental land-use policy." (*Goleta II*, *supra*, 52 Cal.3d at p. 573.) In approving a general plan, the local agency has already identified and analyzed suitable alternative sites for particular types of development and has selected a feasible land use plan. "Informed and enlightened regional planning [does] *not* demand a project EIR dedicated to defining optimal alternative sites without regard to feasibility. Indeed, such ad hoc reconsideration of basic planning policy [is] not only unnecessary, but would [be] in contravention of the legislative goal of long-term, *comprehensive* planning." (*Goleta II*, *supra*, 52 Cal.3d at pp. 572-573.) The City's proposed General Plan Update shows the Development Area portion of the Project site with a Low Density Residential, High Density Residential, and Park land use designation, consistent with the proposed Project uses. It is anticipated that the General Plan Update would be certified prior to operation of the proposed Project. Therefore, the proposed Project is generally consistent with the types of uses considered in the proposed Manteca General Plan update and associated EIR, and thus, in addition to the reasons discussed above, an off-site alternative need not be further discussed in this EIR.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

Three alternatives to the proposed Project were developed based on input from City staff and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project.

- **No Project (No Build) Alternative**: Under this alternative, development of the Project site would not occur, and the Project site would remain in its current existing condition.
- **Increased Density Alternative:** Under this alternative, the proposed Project would be developed with the same amenities as described in the Project Description, but the density of the residential uses would be increased.
- **Agricultural Protection Alternative:** Under this alternative, the proposed Project would be developed in such a way to protect those lands currently identified as prime farmland and farmland of statewide importance, by reducing the overall footprint of the developed areas to a greater extent than the Increased Density Alternative.

NO PROJECT (NO BUILD) ALTERNATIVE

Under the No Project (No Build) Alternative development of the Project site would not occur, and the Project site would remain in its current existing condition. It is noted that the No Project (No Build) Alternative would fail to meet the Project objectives identified by the City of Manteca.

INCREASED DENSITY ALTERNATIVE

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but density of the residential uses would be increased. Under the Increased Density Alternative, the same number of residential units as the proposed project (915 units) would be constructed within the Development Area. The residential areas would be clustered throughout the Project site at increased densities to allow for an increase in park/open space areas. The residential density under the Increased Density Alternative would fall within the allowed density for the City's General Plan designation of Low Density Residential (2.1 to 8.0 dwelling units per acre [du/ac]). Under the proposed Project, the residential density would be 5.2 units per gross acre. Under the Increased Density Alternative, the residential density would be 8.0 units per gross acre. The 14.55 acres of total park/open space uses would be increased to approximately 25.0 acres.

AGRICULTURAL PROTECTION ALTERNATIVE

The reasoning behind this alternative is to present an alternative to protect some of the farmland on the Project site. Development of the proposed Project would result in the permanent conversion of approximately 26.2 acres of Prime Farmland and 146.25 acres of Farmland of Statewide Importance. Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but the residential areas would be reduced resulting in an increase of undeveloped land beyond the Increased Density Alternative. Residential units would be reduced from 915 to 686. The total Development Area acreage dedicated to the proposed Project would be reduced by approximately 25 percent. The total acreage developed would be 131.75 acres, with 43.92 acres remaining in its current state. The 43.92 acres that would remain undeveloped would include the agricultural land only.

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-1 summarizes the comparative effects of each alternative.

NO PROJECT (NO BUILD) ALTERNATIVE

Aesthetics and Visual Resources

The No Project (No Build) Alternative would leave the Project site in its existing state and would not result in increases in daytime glare or nighttime lighting. The visual character of the Project site would not change under this alternative compared to existing conditions.

As described in Section 3.1, the visual character of the Project site would be significantly altered as a result of Project implementation. Implementation of the City's Development Standards for Zoning District for height and bulk and consistency with the General Plan and the Manteca Zoning Ordinance would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

The proposed Project would result in potentially significant new sources of light and glare. The proposed Project would also result in impacts to the existing visual character or quality of the Project site and its surroundings. However, the No Project (No Build) Alternative would avoid these impacts altogether. As such, this impact would be reduced when compared to the proposed Project.

Agricultural Resources

Currently, the majority of the Project site is used for agricultural purposes. The No Project (No Build) Alternative would result in no development in on the Project site. As such, this alternative would have no impact on agricultural land, no potential for conflicts with existing agricultural resources, and no potential for conflict with regulations and plans intended to protect those resources. As such, this impact would be reduced when compared to the proposed Project.

Air Quality

As described in Section 3.3, San Joaquin County has a State designation Attainment or Unclassified for all criteria pollutants except for ozone, particulate matter of 10 microns or less in size (PM_{10}), and particulate matter of 2.5 microns or less in size ($PM_{2.5}$). San Joaquin County has a national designation of either Unclassified or Attainment for all criteria pollutants except for ozone and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the State and Federal attainment status for San Joaquin County.

As discussed under Impact 3.3-1 in Section 3.3, the San Joaquin Valley Air Pollution Control District (SJVAPCD) has established their thresholds of significance by which the Project emissions are compared against to determine the level of significance. The SJVAPCD has established operations related emissions thresholds of significance as follows: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NO_x), 10 tons per year of reactive organic gases (ROG), 27 tons per year of sulfur oxides (SO_x), 15 tons per year PM_{10}, and 15 tons per year $PM_{2.5}$.

As shown in Table 3.3-6 and Table 3.3-7, operational and construction emissions would not exceed the SJVACPD thresholds of significance, with implementation of Mitigation Measure 3.3-1 through Mitigation Measure 3.3-4.

The proposed Project is subject to the SJVAPCD Rule 9510 (Indirect Source Rule [ISR]), which could result in substantial mitigation of NO_x and associated ROG emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through Project mitigation commitments. The actual calculations will be determined and finalized by the SJVAPCD and Project applicants as individual projects are brought forward for approval under Rule 9510.

Under the No Project (No Build) Alternative, the Project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to air quality. As such, this impact would be reduced when compared to the proposed Project.

Biological Resources

As described in Section 3.4, Biological Resources, construction in the Project site has the potential to result in impacts to special-status species in the region. Although there has been no documented sighting within the immediate area in, or near the Project site, the Project site provides potential habitat for several species, including those discussed in Section 3.4. Mitigation Measure 3.4-1 requires participation with the San Joaquin County Multi-Species Habitat Conservation and Open Space plan (SJMSCP), which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the Project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the San Joaquin Council of Governments (SJCOG) through the authorization of SJMSCP coverage. Mitigation Measure 3.4-2 requires a landscape plan that includes tree planting specifications established by the Manteca Municipal Code (17.19.060) for the replacement of any trees, excluding orchard and non-native trees, to be removed at a ratio of 1:1. Replacement trees shall be planted on-site at a location that is agreeable to the City.

Under the No Project (No Build) Alternative, the proposed Project would not be constructed, no habitat would be removed, and no ground disturbing activities would occur. As such, this impact would be reduced when compared to the proposed Project.

Cultural and Tribal Resources

As discussed in Section 3.5, Cultural and Tribal Resources, the CHRIS search for the Project site did not indicate than any historic period resources were previously recorded in the Development Area. Any previously unknown cultural resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources in the region.

The No Project (No Build) Alternative would result in no ground disturbing activities related to the proposed Project and would not have the potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation, the No Project (No Build) Alternative would result in less potential for impacts to cultural resources as the entire Project site would continue to be used for agricultural production. As such, this impact would be reduced when compared to the proposed Project.

Geology and Soils

The No Project (No Build) Alternative would result in the Project site remaining in its existing condition. The current uses on the Development Area are predominantly agricultural and undeveloped, except for existing houses and barns and/or sheds with associated equipment in the northwestern portion of the site. The structures on the Project site would continue to be subject to seismic or geologic risks, including earthquakes, liquefaction, subsidence, etc. The No Project (No Build) Alternative would not involve new construction that could be subject to seismic, geologic or soils hazards; thus, this alternative would have no potential for impact. As such, this impact would be reduced when compared to the proposed Project.

Greenhouse Gases, Climate Change and Energy

As stated previously, short-term construction greenhouse gas (GHG) emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. Short-term construction emissions of GHGs are estimated at a maximum of approximately 1,040 metric tons of CO_2 equivalent (MT CO_2e) per year. The Project is estimated to generate approximately 2,955 residents during the Project's operational phase. Dividing the total annual operational GHG emissions at Project buildout by this number of estimated residents generated by the Project (after accounting for both Project design features) in year 2025 yields approximately 3.41 MT CO_2e/SP/Year, which is below the 3.56 MT CO_2e/SP/year in 2025 target based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. However, taking this same approach for year 2028 yields approximately 3.14 MT CO_2e/SP/Year, which is above the 2.96 MT CO_2e/SP/year in 2028 target based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. Furthermore, taking this same approach for year 2030 yields approximately 3.10 MT CO_2e/SP/Year, which is above the 2.62 MT CO_2e/SP/year in 2030 target based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. Therefore, the proposed Project would be required to implement Mitigation Measures 3.7-1 through 3.7-3, but even with implementation of these mitigation measures, the proposed Project would not achieve the 2.96 MT CO_2e/SP/year in 2028 and 2.62 MT CO_2e/SP/year in 2030 targets, through on- or off-site GHG reductions (or a combination thereof). The primary contributor to the Project's exceedance of the service population threshold is the Project's VMT, as discussed in the Transportation Chapter of this EIR.

The Project would also implement Mitigation Measures 3.7-1 and 3.7-2, which would ensure that the Project is consistent with the non-mobile source portion of the SMAQMD *Greenhouse Gas Thresholds for Sacramento County* (June 2020), which is a threshold supported by substantial evidence adopted to ensure compliance with SB 32's 2030 GHG reduction target. However, the Project would not be fully consistent with the SMAQMD GHG thresholds (specifically, BMP 3) due to its significant and unavoidable VMT impact. The Project would also implement Mitigation Measure 3.7-3, which requires the Project to implement Project-specific GHG emissions reduction requirements.

With regard to energy consumption, the proposed Project would use energy resources for the operation of Project buildings (natural gas and electricity), outdoor lighting (electricity), for on-road vehicle trips (e.g. gasoline and diesel fuel) rerouted by the proposed Project, and from off-road and on-road construction activities associated with the proposed Project (e.g. diesel fuel). Each of these activities would require the use of energy resources. The proposed Project would be responsible for conserving energy, to the extent feasible.

The proposed Project would be in compliance with all applicable federal, State, and local regulations regulating energy usage. For example, PG&E, the electric and natural gas provider to the proposed Project, is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the statewide RPS to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. PG&E has achieved at least a 33% mix of renewable energy resources in 2020 and is on track to achieve 60% mix of renewable energy by 2030. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time.

Additionally, as discussed above under Impact 3.7-3 in Section 3.7: Greenhouse Gases, Climate Change, and Energy, the Proposed Project would incorporate sustainability features.

Under the No Project (No Build) Alternative, the Project site would not be developed, and there would be no net change in emissions an energy usage and no potential for a conflict with any adopted plans or policies related to GHG reductions an energy usage. As such, this impact would be reduced when compared to the proposed Project.

Hazards and Hazardous Materials

The proposed Project includes components which will likely use a variety of common household hazardous materials including: paints, cleaners, cleaning solvents, pesticides, fertilizers, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health.

Under the No Project (No Build) Alternative, no new land uses would be introduced to the Project site, and the potential for hazardous material release on the Project site would be eliminated. As such, this impact would be reduced when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, implementation of the proposed Project has the potential to result in the violation of water quality standards and the discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Mitigation measures provided in Section 3.9 reduce potential water quality impacts to a less than significant level. The proposed Project would not significantly impact groundwater recharge or place persons or structures in a flood hazard zone.

Under the No Project (No Build) Alternative, potential water quality impacts from construction and operation of the proposed Project would be eliminated. While groundwater recharge is not considered a significant impact under the proposed Project, under this alternative, the land will be kept in its present state with the majority of the Project site being used for agricultural purposes. The infiltration rate of the soils on the Project site is primarily considered high. The Project site is not a major source of groundwater recharge due to the lack of precipitation and the absence of a major water source. The No Project (No Build) Alternative will have a greater chance of groundwater recharge because it does not introduce large areas of impervious surfaces as would the proposed Project. As such, potential impacts related to hydrology and water quality would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

Land Use, Population, and Housing

The proposed Project is not expected to induce population growth that has not already been accounted for as a part of the existing General Plan, or analyzed in detail in this EIR. The proposed Project does not displace substantial numbers of persons or housing units. The Project would require a zoning and, depending on the timing of the General Plan Update, general plan amendment for land use changes, as well as annexation to the City of Manteca. However, impacts to land use are considered less than significant.

The No Project (No Build) Alternative would result in no changes to land use and would have no development. The proposed Project is not expected to induce substantial unplanned population increase because the City plans growth in its Sphere of Influence and the growth is analyzed in detail in this EIR. The proposed Project does not displace substantial numbers of persons or housing units. However, because the No Project (No Build) Alternative would not add any additional population and would not change land use patterns, impacts related to land use and population would be reduced when compared to the proposed Project.

Noise

The proposed Project could increase noise-generating activities associated with the maintenance and operation of the proposed Project, as well as from vehicular traffic, and construction noise. Mitigation measures provided in Section 3.12 would reduce all potential impacts to a less than significant level. Under the No Project (No Build) Alternative, the Project site would not be developed and there would be no potential for new noise sources. As such, this impact would be reduced when compared to the proposed Project.

Public Services and Recreation

Under the No Project (No Build) Alternative, the Project site would remain undeveloped and there would be no increased demand for public services or recreation. The recreational amenities within the proposed Project, however, would not be developed for community use. The No Project (No Build) Alternative would have a reduced impact when compared to the proposed Project because demand on public services would be reduced with compared to the proposed Project, with the possible exception of recreational park facilities.

Transportation and Circulation

The No Project (No Build) Alternative would not introduce additional vehicle, pedestrian, or bicycle travel on the area roadways. It was determined that the proposed Project would result in VMT increases that are greater than 85 percent of Baseline conditions, even with implementation of mitigation. However, the proposed Project would not conflict with a program, plan, policy or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities, or increase hazards due to a design feature, incompatible uses, or inadequate emergency access. The No Project (No Build) Alternative would have a reduced traffic impact when compared to the proposed Project.

Utilities

Implementation of the proposed Project would result in increased flows to the public wastewater system. The wastewater system is capable of handling the increased flows with their existing permit and infrastructure. Implementation of the proposed Project would result in increased demand for potable water. The City has adequate water supply to handle the increased demand with their existing supply and infrastructure. Implementation of the proposed Project would result in increased storm drainage from new impervious surfaces. The proposed Project includes a storm drainage collection system to handle the increased storm drainage. Implementation of the proposed Project would result in increased generation of solid waste. However, the landfill has adequate capacity to dispose the solid waste.

Under the No Project (No Build) Alternative the Project site would not increase the demand for any utilities, including wastewater services, potable water supplies, or solid waste disposal. There would be no need to construct stormwater drainage infrastructure. Overall, the demand for utilities would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

Wildfire

The Project Site is not located in or near any State Responsibility Areas and there are no lands classified as very high fire hazard severity zones within or near the Project Site. Therefore, the proposed Project would have no impact related to wildfire risks associated with lands in or near State Responsibility Areas or lands classified as very high fire hazard severity zones.

Under the No Project (No Build) Alternative, development of the Project site would not occur and the Project site would remain in its current existing condition. Although the Project would result in no impact related to wildfires, the No Project (No Build) Alternative would not introduce new residents to a vacant area of the City which could be subject to fires. Overall, impacts related to wildfires would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

INCREASED DENSITY ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, the visual character of the Project site would be significantly altered as a result of proposed Project implementation. Implementation of the City's Development Standards for Zoning District's for height and bulk and consistency with the General Plan and the Manteca Zoning Ordinance would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

These impacts would be similar with the Increased Density Alternative as this alternative is located on the same site and would have similar uses. This alternative would result in the same number of residential units and an increase in park/open space uses. The impacts of light and glare would still occur and could be mitigated to a less than significant level. The impacts to the existing visual quality would be similar to the proposed Project as the Project site would be developed with the same uses as under the proposed Project, just at a higher density. However, due to the increase in park/open space areas, the Increased Density Alternative would have a slightly reduced impact on visual resources when compared to the proposed Project.

Agricultural Resources

Currently, the majority of the Project site is used for agricultural purposes. The Increased Density Alternative would result in development of the entire Project site. While this alternative would increase the amount of park/open space areas, these areas would still be converted from agricultural use. As such, this alternative would not reduce the impacts to agricultural lands when compared to the proposed Project. The loss of the agricultural land, including prime farmland, would be a significant and unavoidable impact under both the Increased Density Alternative and the proposed Project. Therefore, the Increased Density Alternative would have equal impacts on agricultural resources when compared to the proposed Project.

Air Quality

As described in Section 3.3, San Joaquin County has a State designation Attainment or Unclassified for all criteria pollutants except for ozone, PM_{10}, and $PM_{2.5}$. San Joaquin County has a national designation of either Unclassified or Attainment for all criteria pollutants except for ozone and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the State and Federal attainment status for San Joaquin County.

As discussed under Impact 3.3-1 in Section 3.3, the SJVAPCD has established their thresholds of significance by which the Project emissions are compared against to determine the level of significance. The SJVAPCD has established operations related emissions thresholds of significance as follows: 100 tons per year of CO, 10 tons per year of NO_x, 10 tons per year of ROG, 27 tons per year of SO_x, 15 tons per year PM_{10}, and 15 tons per year $PM_{2.5}$.

As shown in Table 3.3-6 and Table 3.3-7, operational and construction emissions would not exceed the SJVACPD thresholds of significance, with implementation of Mitigation Measure 3.3-1 through Mitigation Measure 3.3-4.

Implementation of the proposed Project would cause an increase in traffic, which is the dominant source of air emissions associated with the proposed Project. Under the Increased Density Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the amount of park/open space uses would be increased. The total development would be equal to the proposed Project. Therefore, the amount of traffic generated from the Project site would be equal under this alternative and the proposed Project. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the similar trip volume would result in a similar amount of the mobile source emissions. Additionally, the area source emissions would be similar to the Project.

Uses in the Increased Density Alternative would be required to adhere to the same mitigation measures as the proposed Project. The Increased Density Alternative would result in similar air emissions when compared to the proposed Project.

Biological Resources

As described in Section 3.4, Biological Resources, construction in the Project site has the potential to result in impacts to special-status species in the region. Although there has been no documented sighting within the immediate area in, or near the Project site, the Project site provides potential habitat for several species, including those discussed in Section 3.4. Mitigation Measure 3.4-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the Project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage.

The Increased Density Alternative would result in development of the entire Project site. Under this alternative, there would be approximately 9.45 more acres of park/open space land that may provide habitat for a variety of species. This addition of park and open space land would provide biological benefits even though the remainder of the Project site would be developed. As such, the Increased Density Alternative would result in slightly less impact to biological resources when compared to the proposed Project.

Cultural and Tribal Resources

As discussed in Section 3.5, Cultural and Tribal Resources, the CHRIS search for the Project site did not indicate than any historic period resources were previously recorded in the Development Area. Any previously unknown cultural resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources in the region.

The Increased Density Alternative would result in development of the entire Project site, but would increase the amount of park/open space areas by 9.45 acres. Although the amount of park/open space areas would increase as compared to the proposed Project, the entire Project site would be disturbed. This would result in a similar potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation, the Increased Density Alternative would result in a similar potential for impacts to cultural resources.

Geology and Soils

As described in Section 3.6, implementation of the proposed Project would result in the construction of new structures on the Project site. The new structures would be subject to seismic, geologic, and soils hazards for the life of the Project. Mostly notably, the proposed Project would be subject to liquefaction, liquefaction induced settlement, and lateral spreading. Mitigation measures identified in Section 3.6 would reduce the potential impacts to a less than significant level.

Under the Increased Density Alternative, the amount of developed area would be similar to the Project and an equal number of structures would be subject to hazardous geological conditions. While the proposed Project is not anticipated to result in significant impacts from geology and soils with mitigation, the Increased Density Alternative would result in similar potential for impacts when compared to the proposed Project.

Greenhouse Gases, Climate Change and Energy

As stated previously, short-term construction greenhouse gas (GHG) emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. Short-term construction emissions of GHGs are estimated at a maximum of approximately 1,040 metric tons of CO_2 equivalent (MT CO_2e) per year. The Project is estimated to generate approximately 2,955 residents during the Project's operational phase. Dividing the total annual operational GHG emissions at Project buildout by this number of estimated residents generated by the Project (after accounting for both Project design features) in year 2025 yields approximately 3.41 MT CO_2e/SP/Year, which is below the 3.56 MT CO_2e/SP/year in 2025 target based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. However, taking this same approach for year 2028 yields approximately 3.14 MT CO_2e/SP/Year, which is above the 2.96 MT CO_2e/SP/year in 2028 target based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. Furthermore, taking this same approach for year 2030 yields approximately 3.10 MT CO_2e/SP/Year, which is above the 2.62 MT CO_2e/SP/year in 2030 target based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. Therefore, the proposed Project would be required to implement Mitigation Measures 3.7-1 through 3.7-3, but even with implementation of these mitigation measures, the proposed Project would not achieve the 2.96 MT CO_2e/SP/year in 2028 and 2.62 MT CO_2e/SP/year in 2030 targets, through on- or off-site GHG reductions (or a combination thereof). The primary contributor to the Project's exceedance of the service population threshold is the Project's VMT, as discussed in the Transportation Chapter of this EIR.

The Project would also implement Mitigation Measures 3.7-1 and 3.7-2, which would ensure that the Project is consistent with the non-mobile source portion of the SMAQMD *Greenhouse Gas Thresholds for Sacramento County* (June 2020), which is a threshold supported by substantial evidence adopted to ensure compliance with SB 32's 2030 GHG reduction target. However, the Project would not be fully consistent with the SMAQMD GHG thresholds (specifically, BMP 3) due to its significant and unavoidable VMT impact. The Project would also implement Mitigation

Measure 3.7-3, which requires the Project to implement Project-specific GHG emissions reduction requirements.

With regard to energy consumption, the proposed Project would use energy resources for the operation of Project buildings (natural gas and electricity), outdoor lighting (electricity), for on-road vehicle trips (e.g. gasoline and diesel fuel) rerouted by the proposed Project, and from off-road and on-road construction activities associated with the proposed Project (e.g. diesel fuel). Each of these activities would require the use of energy resources. The proposed Project would be responsible for conserving energy, to the extent feasible.

The proposed Project would be in compliance with all applicable federal, State, and local regulations regulating energy usage. For example, PG&E, the electric and natural gas provider to the proposed Project, is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the statewide RPS to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. PG&E has achieved at least a 33% mix of renewable energy resources in 2020 and is on track to achieve 60% mix of renewable energy by 2030. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Additionally, as discussed above under Impact 3.7-3 in Section 3.7: Greenhouse Gases, Climate Change, and Energy, the Proposed Project would incorporate sustainability features.

Under the Increased Density Alternative, the Project site would be developed with the same types of uses and structures as the proposed Project, but the amount of park/open space areas would be increased. All uses in the Increased Density Alternative would be required to adhere to the same mitigation measure as the proposed Project. The equal number of residential units would result in a corresponding equal level of GHG emissions and energy usage when compared to the proposed Project. As such, the GHG emissions and energy usage impact would be equal when compared to the proposed Project.

Hazards and Hazardous Materials

The proposed Project includes components which will likely use a variety of common household hazardous materials including: paints, cleaners, cleaning solvents, pesticides, fertilizers, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health.

Under the Increased Density Alternative, the type and quantity of residential uses on the site would not change when compared to the proposed Project, but the amount of park/open space areas would increase. This alternative would still use the hazardous materials identified under the proposed Project. As such, this alternative would have equal impacts from hazards and hazardous materials impacts when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, implementation of the proposed Project has the potential to result in the violation of water quality standards and the discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Mitigation measures provided in Section 3.9 reduce potential water quality impacts to a less than significant level. The proposed Project would not significantly impact groundwater recharge or place persons or structures in a flood hazard zone.

Under the Increased Density Alternative, potential construction-related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be slightly reduced equivalent to the amount of land area that remains as park/open space under this alternative. The increased areas of park and open space under this alternative will remain pervious to precipitation, which will facilitate groundwater recharge and the natural biofiltration of stormwater. This alternative will still include stormwater detention/basins, and provide natural BMPs to reduce pollutants in stormwater runoff. As such, potential impacts related to hydrology and water quality would be slightly reduced under the Increased Density Alternative when compared to the proposed Project.

Land Use, Population, and Housing

The proposed Project is not expected to induce population growth that has not already been accounted for as a part of the existing General Plan, or analyzed in detail in this EIR. The proposed Project does not displace substantial numbers of persons or housing units. The Project would require a zoning and, depending on the timing of the General Plan Update, a general plan amendment for land use changes, as well as annexation to the City of Manteca. However, impacts to land use are considered less than significant.

The Increased Density Alternative is not expected to induce substantial population growth in the area. Both the proposed Project and the Increased Density Alternative would not displace substantial numbers of persons or housing units. Similar to the proposed Project, development of the Increased Density Alternative would remove the housing units onsite, and add 915 residential units. Therefore, impacts relating to land use, population and housing would be equal under this alternative.

Noise

The proposed Project could increase noise-generating activities associated with the maintenance and operation of the proposed Project, as well as from vehicular traffic, and construction noise. Mitigation measures provided in Section 3.12 would reduce all potential impacts to a less than significant level. The Increased Density Alternative would result in the same number of residential units as the Project; therefore, the noise impacts associated with the alternative would be equal to the vehicular and operational activities of the proposed Project. All noise issues would be mitigated, as appropriate, through noise attenuation and best management practices; therefore, under this alternative, noise impacts are equal when compared to the proposed Project.

Public Services and Recreation

Development in the proposed Project will pay all applicable fees and assessments required to fund its fair share of public services and recreation. This funding would assist in the development of facilities in order to meet the City's standards. The proposed Project would have a less than significant impact to fire, police, and schools, and recreational facilities.

Under the Increased Density Alternative, the site would be developed with the same range of allowable uses as described in the Project Description, and number of the residential units would be equal. The increase in park/open space areas may result in an increase in irrigation water demand; however, these open space areas would increase the potential for on-site stormwater detention. Additionally, the increase in park/open space areas would provide for an increase in recreational opportunities for the proposed residents as compared to the Project. As such, this impact would be slightly reduced when compared to the proposed Project.

Transportation and Circulation

It was determined that the proposed Project would result in VMT increases that are greater than 85 percent of Baseline conditions, even with implementation of mitigation. However, the proposed Project would not conflict with a program, plan, policy or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities, or increase hazards due to a design feature, incompatible uses, or inadequate emergency access.

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but density of the residential uses would be increased. Under the Increased Density Alternative, the same number of residential units as the proposed project (915 units) would be constructed within the Development Area. The equal number of residential uses would result in an equal amount of vehicle trips generated from the Project site. Therefore, the Increased Density Alternative would result in similar traffic related impacts when compared to the proposed Project.

Utilities

Implementation of the proposed Project would result in increased flows to the public wastewater system. The wastewater system is capable of handling the increased flows with their existing permit and infrastructure. Implementation of the proposed Project would result in increased demand for potable water. The City has adequate water supply to handle the increased demand with their existing supply and infrastructure. Implementation of the proposed Project would result in increased storm drainage from new impervious surfaces. The proposed Project includes a storm drainage collection system to handle the increased storm drainage. Implementation of the proposed Project would result in increased generation of solid waste. However, the landfill has adequate capacity to dispose the solid waste.

Under the Increased Density Alternative, the proposed Project would be developed with the same components and number of residential units as described in the Project Description, but an increase in park/open space. This would result in an equal amount of wastewater, water demand, and solid waste generated from the Project site. There would be approximately 9.55 more acres of pervious soils, thereby increasing opportunities for stormwater retention at the Project site. However, uses in the Increased Density Alterative would be required to adhere to the same mitigation measure as the proposed Project, and the equal amount of dwelling units would result in similar utility demands. The Increased Density Alternative would result in similar demand on utility systems when compared to the proposed Project.

Overall, this alternative would have equal wastewater treatment demand, equal water demand, equal solid waste generated, and equal storm water runoff when compared to the proposed Project. As such, this alternative would have equal impacts when compared to the proposed Project.

Wildfire

The Project Site is not located in or near any State Responsibility Areas and there are no lands classified as very high fire hazard severity zones within or near the Project Site. Therefore, the proposed Project would have no impact related to wildfire risks associated with lands in or near State Responsibility Areas or lands classified as very high fire hazard severity zones.

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but density of the residential uses would be increased. Under the Increased Density Alternative, the same number of residential units as the proposed project (915 units) would be constructed within the Development Area. Both the proposed Project and this alternative would result in no impact related to wildfires. Overall, impacts related to wildfires would be equal under the Increased Density Alternative when compared to the proposed Project.

AGRICULTURAL PROTECTION ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, the visual character of the Project site would be significantly altered as a result of Project implementation. Implementation of the City's Development Standards for Zoning District's for height and bulk and consistency with the General Plan and the Manteca Zoning Ordinance would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

Under the Agriculture Protection Alternative, a portion of the Project site would remain under agricultural production, and therefore, would retain the existing visual character. However, portions of the Project site that are currently agricultural land would be converted to urban uses. As such, there would still be an impact to the visual character under this alternative. The impact associated with increased light and glare in the developed area would be mitigated. Under this alternative, the changes to the existing visual quality would be similar to the proposed Project in the areas that are developed and would remain significant and unavoidable for the Project as a whole, but would be significantly less in the areas that are not developed. As such, this alternative would have a reduced impact that is proportionate to the reduced development area, when compared to the proposed Project.

Agricultural Resources

Currently, the majority of the Project site is used for agricultural purposes. The Agricultural Protection Alternative would reduce the amount of converted Prime Farmland and Farmland of Statewide Importance. Provisions for payment of compensatory fees would partially offset conversions of farmland on the portion that would be developed; however, no new farmland would be made available, and the productivity of existing farmland would not be improved as a result of these measures. Therefore, full compensation for losses of Important Farmland under the Agricultural Protection Alternative would not be achieved resulting in a significant and unavoidable impact.

While this alternative would still result in a significant and unavoidable impact to agriculture, the land lost to urban uses is less than under the proposed Project. As such, this alternative would have a reduced impact that is proportionate to the reduced development area, when compared to the proposed Project.

Air Quality

Under buildout conditions in the San Joaquin County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.3, San Joaquin County has a State designation Attainment or Unclassified for all criteria pollutants except for ozone, PM_{10}, and $PM_{2.5}$. San Joaquin County has a national designation of either Unclassified or Attainment for all criteria pollutants except for ozone and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the State and Federal attainment status for San Joaquin County.

As discussed under Impact 3.3-1 in Section 3.3, the SJVAPCD has established their thresholds of significance by which the Project emissions are compared against to determine the level of significance. The SJVAPCD has established operations related emissions thresholds of significance as follows: 100 tons per year of CO, 10 tons per year of NO_x, 10 tons per year of ROG, 27 tons per year of SO_x, 15 tons per year PM_{10}, and 15 tons per year $PM_{2.5}$.

As shown in Table 3.3-6 and Table 3.3-7, operational and construction emissions would not exceed the SJVACPD thresholds of significance, with implementation of Mitigation Measure 3.3-1 through Mitigation Measure 3.3-4.

Implementation of the proposed Project would cause an increase in traffic, which is the dominant source of air emissions associated with the proposed Project. Under the Agricultural Protection Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the number of units and the Project footprint would be reduced resulting in an increase of undeveloped land. The total development would be reduced by approximately 25 percent. This reduction in residential units would represent an approximately 25 percent reduction in the amount of traffic generated from the Project site. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the reduced trip volume would reduce the mobile source emissions by approximately the same 25 percent. Additionally, this alternative would have a reduction in area source emissions proportional to the reduction in residential units.

While uses in the Agricultural Protection Alternative would be required to adhere to the same mitigation measures as the proposed Project, the decrease in residential units and reduced traffic volumes would result in reductions in air emissions. Therefore, the Agricultural Protection Alternative would result in reduced air emissions when compared to the proposed Project.

Biological Resources

As described in Section 3.4, Biological Resources, construction in the Project site has the potential to result in impacts to special-status species in the region. Although there has been no documented sighting within the immediate area in, or near the Project site, the Project site provides potential habitat for several species, including those discussed in Section 3.4. Mitigation Measure 3.4-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the Project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage.

The Agricultural Protection Alternative would result in development on the Project site, but the development would be significantly reduced with 43.92 acres remaining in its current condition. The 43.92 acres that would remain undeveloped would include the agricultural land only. Under this alternative, there would be more acres of agricultural land that would provide open space habitat for a variety of wildlife species, predominately associated with foraging (i.e., protected raptors including Swainson's hawk, migratory birds). This additional agricultural land would provide biological benefits to wildlife in the region even though a portion of the Project site would still be developed. As such, the Agricultural Protection Alternative would have a reduced impact that is proportionate to the reduced development area, when compared to the proposed Project.

Cultural and Tribal Resources

As discussed in Section 3.5, Cultural and Tribal Resources, the CHRIS search for the Project site did not indicate than any historic period resources were previously recorded in the Development Area. Any previously unknown cultural resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources in the region.

Under this Agricultural Protection Alternative, there would be less ground disturbing activities related to development and there would be a reduced potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation, the Agricultural Protection Alternative would have a reduced impact that is proportionate to the reduced development area, when compared to the proposed Project.

Geology and Soils

As described in Section 3.6, implementation of the proposed Project would result in the construction of new structures on the Project site. The new structures would be subject to seismic, geologic, and soils hazards for the life of the Project. Mostly notably, the proposed Project would be subject to liquefaction, liquefaction induced settlement, and lateral spreading. Mitigation measures identified in Section 3.6 would reduce the potential impacts to a less than significant level.

Under the Agricultural Protection Alternative, there would be less developed area, resulting in fewer structures that would be subject to geological conditions. The Agricultural Protection Alternative would result in more of the Project site remaining in its existing undeveloped condition. While the proposed Project is not anticipated to result in significant impacts from geology and soils with mitigation, the Agricultural Protection Alternative would have a reduced impact that is proportionate to the reduced development area when compared to the proposed Project.

Greenhouse Gases, Climate Change and Energy

As stated previously, short-term construction greenhouse gas (GHG) emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. Short-term construction emissions of GHGs are estimated at a maximum of approximately 1,040 metric tons of CO_2 equivalent (MT CO_2e) per year. The Project is estimated to generate approximately 2,955 residents during the Project's operational phase. Dividing the total annual operational GHG emissions at Project buildout by this number of estimated residents generated by the Project (after accounting for both Project design features) in year 2025 yields approximately 3.41 MT CO_2e/SP/Year, which is below the 3.56 MT CO_2e/SP/year in 2025 target based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. However, taking this same approach for year 2028 yields approximately 3.14 MT CO_2e/SP/Year, which is above the 2.96 MT CO_2e/SP/year in 2028 target based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. Furthermore, taking this same approach for year 2030 yields approximately 3.10 MT CO_2e/SP/Year, which is above the 2.62 MT CO_2e/SP/year in 2030 target based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. Therefore, the proposed Project would be required to implement Mitigation Measures 3.7-1 through 3.7-3, but even with implementation of these mitigation measures, the proposed Project would not achieve the 2.96 MT CO_2e/SP/year in 2028 and 2.62 MT CO_2e/SP/year in 2030 targets, through on- or off-site GHG reductions (or a combination thereof). The primary contributor to the Project's exceedance of the service population threshold is the Project's VMT, as discussed in the Transportation Chapter of this EIR.

The Project would also implement Mitigation Measures 3.7-1 and 3.7-2, which would ensure that the Project is consistent with the non-mobile source portion of the SMAQMD *Greenhouse Gas Thresholds for Sacramento County* (June 2020), which is a threshold supported by substantial evidence adopted to ensure compliance with SB 32's 2030 GHG reduction target. However, the Project would not be fully consistent with the SMAQMD GHG thresholds (specifically, BMP 3) due to its significant and unavoidable VMT impact. The Project would also implement Mitigation Measure 3.7-3, which requires the Project to implement Project-specific GHG emissions reduction requirements.

With regard to energy consumption, the proposed Project would use energy resources for the operation of Project buildings (natural gas and electricity), outdoor lighting (electricity), for on-road vehicle trips (e.g. gasoline and diesel fuel) rerouted by the proposed Project, and from off-road and on-road construction activities associated with the proposed Project (e.g. diesel fuel). Each of these activities would require the use of energy resources. The proposed Project would be responsible for conserving energy, to the extent feasible.

The proposed Project would be in compliance with all applicable federal, State, and local regulations regulating energy usage. For example, PG&E, the electric and natural gas provider to the proposed Project, is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the statewide RPS to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. PG&E has achieved at least a 33% mix of renewable energy resources in 2020 and is on track to achieve 60% mix of renewable energy by 2030. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Additionally, as discussed above under Impact 3.7-3 in Section 3.7: Greenhouse Gases, Climate Change, and Energy, the Proposed Project would incorporate sustainability features.

Under the Agricultural Protection Alternative, the Project site would be developed with the same uses as the proposed Project in the developed area, but the total footprint and number of residential units would be significantly reduced. While uses in the Agricultural Protection Alternative would be required to adhere to the same mitigation measure as the proposed Project, the decrease in total residential unit count would decrease the total GHG emissions and energy usage. As such, the GHG emissions and energy usage impact is reduced when compared to the proposed Project.

Hazards and Hazardous Materials

The proposed Project includes components which will likely use a variety of common household hazardous materials including: paints, cleaners, cleaning solvents, pesticides, fertilizers, and fuel. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by San Joaquin County Department of Environmental Health.

Under the Agricultural Protection Alternative, the type of residential uses on the site would not change when compared to the proposed Project, but the number of residences would decrease. This alternative would still use the hazardous materials identified under the proposed Project, but in smaller quantities, given the reduction in development intensity. As such, this alternative would have reduced impacts from hazards and hazardous materials impacts when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, implementation of the proposed Project has the potential to result in the violation of water quality standards and the discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Mitigation measures provided in Section 3.9 reduce potential water quality impacts to a less than significant level. The proposed Project would not significantly impact groundwater recharge or place persons or structures in a flood hazard zone.

Under the Agricultural Protection Alternative, potential construction-related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be reduced equivalent to the amount of land area that remains undisturbed. The undeveloped land will remain pervious to precipitation and will not have the potential to discharge urban pollutants into surface water resources. This alternative would include a stormwater detention/basin, and provide natural BMPs to reduce pollutants in stormwater runoff from the developed areas. As such, potential impacts related to hydrology and water quality would be reduced proportionate to the reduced development area under the Agricultural Protection Alternative when compared to the proposed Project.

Land Use, Population, and Housing

The proposed Project is not expected to induce population growth that has not already been accounted for as a part of the existing General Plan, or analyzed in detail in this EIR. The proposed Project does not displace substantial numbers of persons or housing units. The Project would require a zoning and, depending on the timing of the General Plan Update, a general plan amendment for land use changes, as well as annexation to the City of Manteca. However, impacts to land use are considered less than significant.

The Agricultural Protection Alternative is not expected to induce substantial population growth in the area but would displace persons and remove housing units. The amount of population growth and the number of housing units removed under this alternative would be reduced when compared to the proposed Project. The land use impacts would be reduced under this alternative by reducing agricultural land that is converted to residential and commercial uses. Therefore, impacts relating to land use, population, and housing would be reduced under this alternative proportionate to the reduced development area.

Noise

The proposed Project could increase noise-generating activities associated with the maintenance and operation of the proposed Project, as well as from vehicular traffic, and construction noise. Mitigation measures provided in Section 3.12 would reduce all potential impacts to a less than significant level. Because the Agricultural Protection Alternative would result in less development, the noise impacts associated with future uses would be reduced when compared to the proposed Project. The preserved agricultural area would involve the use of farming equipment and haul trucks that would cause a noise impact; however, the noises related to the agricultural activities already exist, and therefore, this would not introduce a new source of noise to the area. All other noise issues in the developed areas would be similar to the proposed Project, but on a reduced scale given the 25 percent decrease in development intensity under this alternative. Under this alternative, noise impacts would be reduced proportionate to the reduced development area when compared to the proposed Project.

Public Services and Recreation

Development in the proposed Project will pay all applicable fees and assessments required to fund its fair share of public services and recreation. This funding would assist in the development of facilities in order to meet the City’s standards. The proposed Project would have a less than significant impact to fire, police, and schools, and recreational facilities.

Under the Agricultural Protection Alternative, the site would be developed with the same type of uses as described in the Project Description, but the number of residential units would be reduced, resulting in an increase of undeveloped land by 25 percent. The total development would be reduced by approximately 25 percent. This reduction in total residential housing units would represent an approximately 25 percent reduction in the amount of public service needs from the Project site. As such, this impact would be reduced when compared to the proposed Project.

Transportation and Circulation

It was determined that the proposed Project would result in VMT increases that are greater than 85 percent of Baseline conditions, even with implementation of mitigation. However, the proposed Project would not conflict with a program, plan, policy or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities, or increase hazards due to a design feature, incompatible uses, or inadequate emergency access.

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but the residential areas would be reduced resulting in an increase of undeveloped land beyond the Increased Density Alternative. Residential units would be reduced from 915 to 686. The reduction of residential units would result in a reduced amount of vehicle trips generated from the Project site. Therefore, the Agricultural Protection Alternative would result in reduced traffic related impacts when compared to the proposed Project.

Utilities

Implementation of the proposed Project would result in increased flows to the public wastewater system. The wastewater system is capable of handling the increased flows with their existing permit and infrastructure. Implementation of the proposed Project would result in increased demand for potable water. The City has adequate water supply to handle the increased demand with their existing supply and infrastructure. Implementation of the proposed Project would result in increased storm drainage from new impervious surfaces. The proposed Project includes a storm drainage collection system to handle the increased storm drainage. Implementation of the proposed Project would result in increased generation of solid waste. However, the landfill has adequate capacity to dispose the solid waste.

Under the Agricultural Protection Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the overall Project footprint and number of units would be reduced resulting in an increase of undeveloped land. The total development would be reduced by approximately 25 percent. This reduction in square footage and footprint would represent an approximately 25 percent reduction in the amount of wastewater and solid waste generated from the Project site. This reduction would also reduce water demand by approximately 25 percent. There would be approximately 43.92 more acres of pervious soils, thereby reducing the amount of storm drainage from the Project site. While uses in the Agricultural Protection Alternative would be required to adhere to the same mitigation measures as the proposed Project, the decrease in residential units would reduce the utility demands.

Overall, this alternative would have less wastewater treatment demand, less water demand, less solid waste generated, and less storm water runoff when compared to the proposed Project. As such, this alternative would have a reduced impact when compared to the proposed Project.

Wildfire

The Project Site is not located in or near any State Responsibility Areas and there are no lands classified as very high fire hazard severity zones within or near the Project Site. Therefore, the proposed Project would have no impact related to wildfire risks associated with lands in or near State Responsibility Areas or lands classified as very high fire hazard severity zones.

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but the residential areas would be reduced resulting in an increase of undeveloped land beyond the Increased Density Alternative. Residential units would be reduced from 915 to 686. Overall, since the this alternative would have reduced residential units when compared to the proposed Project, impacts related to wildfires would be reduced under Agricultural Protection Alternative when compared to the proposed Project.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project (No Build) Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed Project.

Table 5.0-1 presents a comparison of the alternative Project impacts with those of the proposed Project. As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Agricultural Protection Alternative would be the environmentally superior alternative because all environmental issues would have reduced impacts compared to the proposed Project. It is noted that neither the Agricultural Protection Alternative nor the Increased Density Alternative fully meet all of the Project objectives. Specifically, since the Agricultural Protection Alternative would reduce the residential areas (i.e. residential units would be reduced from 915 to 686), resulting in an increase of undeveloped land. Similarly, under the Increased Density alternative, the proposed Project would be developed with the same components as described in the Project Description for the proposed Project, but density of the residential uses would be increased. Therefore, under the alternatives, the alternatives would not necessarily 1) establish a logical phasing plan designed to ensure that each phase of development would include necessary public improvements required to meet City standards, or 2) annex the three Annexation Sub-Areas in order to avoid the creation of islands, and to establish a logical and orderly city limit line that promotes the efficient extension of municipal services.

TABLE 5.0-1: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	*NO PROJECT (NO BUILD) ALTERNATIVE*	*INCREASED DENSITY ALTERNATIVE*	*AGRICULTURAL PROTECTION ALTERNATIVE*
Aesthetics and Visual Resources	Less (Best)	Less (3rd Best)	Less (2nd Best)
Agricultural Resources	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Air Quality	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Biological Resources	Less (Best)	Less (3rd Best)	Less (2nd Best)
Cultural and Tribal Resources	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Geology and Soils	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Greenhouse Gases, Climate Change and Energy	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Hazards and Hazardous Materials	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Hydrology and Water Quality	Less (Best)	Less (3rd Best)	Less (2nd Best)
Land Use, Population, and Housing	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Noise	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Public Services and Recreation	Less (Best)	Less (3rd Best)	Less (2nd Best)
Transportation and Circulation	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Utilities	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Wildfire	Less (Best)	Equal (3rd Best)	Less (2nd Best)

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT
LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT
EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

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Appendix B

Air Quality, GHG, and Energy Calcs

APPENDIX B –AIR QUALITY, GREENHOUSES GASES, & ENERGY MODELING

Appendix Contents

1. CalEEMod Modeling Results
2. Energy Consumption Estimates
3. GHG Calculation Methodology

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APPENDIX B.1

CalEEMod Modeling Results

North Manteca Annexation #1 (2022) - Unmitigated Scenario Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	North Manteca Annexation #1 (2022) - Unmitigated Scenario
Construction Start Date	9/1/2020
Operational Year	2022
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.00
Location	37.837819220066564, -121.23218578140852
County	San Joaquin
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2160
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.18

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

Single Family Housing	715	Dwelling Unit	153	1,394,250	8,374,693	0.00	2,309	—
Condo/Townhouse	200	Dwelling Unit	12.5	212,000	0.00	0.00	646	—
City Park	10.4	Acre	10.4	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads
Transportation	T-31-B*	Improve Destination Accessibility in Underserved Areas
Transportation	T-32*	Orient Project Toward Transit, Bicycle, or Pedestrian Facility
Energy	E-2	Require Energy Efficient Appliances
Energy	E-7*	Require Higher Efficacy Public Street and Area Lighting
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-12-B	Install Electric Space Heater in Place of Natural Gas Heaters in Residences
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes
Natural Lands	N-2	Expand Urban Tree Planting

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	4.04	39.8	37.2	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	9,009	9,009	0.33	0.59	22.8	9,215
Mit.	4.79	4.04	39.8	37.2	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	9,009	9,009	0.33	0.59	22.8	9,215
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	101	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	8,644	8,644	0.36	0.59	0.59	8,829
Mit.	4.79	101	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	8,644	8,644	0.36	0.59	0.59	8,829
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.60	16.6	13.9	23.3	0.03	0.49	3.75	4.15	0.46	1.85	2.22	—	6,148	6,148	0.24	0.41	6.60	6,280
Mit.	2.60	16.6	13.9	23.3	0.03	0.49	2.93	3.39	0.46	0.77	1.22	—	6,148	6,148	0.24	0.41	6.60	6,280
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.47	3.03	2.54	4.26	0.01	0.09	0.68	0.76	0.08	0.34	0.41	—	1,018	1,018	0.04	0.07	1.09	1,040
Mit.	0.47	3.03	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	1,018	1,018	0.04	0.07	1.09	1,040
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	9.37	10.8	1.33	3.69	5.03	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	3.75	4.15	0.37	1.85	2.22	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	3.56	4.06	0.46	1.03	1.49	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.68	0.76	0.07	0.34	0.41	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.65	0.74	0.08	0.19	0.27	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040
2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	4.12	5.21	1.33	1.46	2.80	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	1.51	1.92	0.37	0.73	1.10	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	2.89	3.39	0.46	0.77	1.22	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.28	0.35	0.07	0.13	0.20	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040

2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	33.1	50.4	24.3	383	0.70	0.90	60.7	61.6	0.86	15.3	16.2	492	76,650	77,142	52.2	1.92	334	79,352
Mit.	33.1	50.3	24.2	383	0.63	0.77	60.5	61.3	0.83	15.3	16.1	483	75,374	75,856	51.2	1.89	334	78,034
% Reduced	—	< 0.5%	1%	< 0.5%	9%	15%	< 0.5%	< 0.5%	4%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	26.1	43.5	28.6	267	0.63	0.87	60.7	61.5	0.84	15.3	16.2	492	69,886	70,378	52.6	2.23	19.9	72,377
Mit.	26.1	43.4	28.5	267	0.57	0.74	60.5	61.3	0.80	15.3	16.1	483	68,610	69,092	51.6	2.21	19.9	71,060
% Reduced	—	< 0.5%	< 0.5%	< 0.5%	10%	15%	< 0.5%	< 0.5%	4%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	28.5	45.9	26.6	297	0.65	0.88	60.3	61.2	0.85	15.3	16.1	492	71,511	72,003	52.4	2.08	151	74,085
Mit.	28.5	45.8	26.5	297	0.58	0.75	60.2	60.9	0.81	15.2	16.0	483	70,235	70,717	51.4	2.06	151	72,767
% Reduced	—	< 0.5%	< 0.5%	< 0.5%	10%	15%	< 0.5%	< 0.5%	4%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.20	8.37	4.85	54.2	0.12	0.16	11.0	11.2	0.16	2.78	2.94	81.5	11,839	11,921	8.67	0.34	24.9	12,266
Mit.	5.20	8.36	4.83	54.2	0.11	0.14	11.0	11.1	0.15	2.78	2.93	79.9	11,628	11,708	8.51	0.34	24.9	12,047

% Reduced	< 0.5%	< 0.5%	< 0.5%	< 0.5%	10%	15%	< 0.5%	< 0.5%	4%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	27.1	25.1	17.4	329	0.66	0.35	60.7	61.0	0.32	15.3	15.7	—	66,344	66,344	2.10	1.73	322	67,233
Area	5.25	24.9	0.53	51.5	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	10,068	10,068	0.72	0.02	—	10,091
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	33.1	50.4	24.3	383	0.70	0.90	60.7	61.6	0.86	15.3	16.2	492	76,650	77,142	52.2	1.92	334	79,352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.3	23.2	22.2	264	0.59	0.35	60.7	61.0	0.32	15.3	15.7	—	59,719	59,719	2.49	2.04	8.35	60,397
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	10,068	10,068	0.72	0.02	—	10,091
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	26.1	43.5	28.6	267	0.63	0.87	60.7	61.5	0.84	15.3	16.2	492	69,886	70,378	52.6	2.23	19.9	72,377
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.2	23.1	19.9	269	0.61	0.35	60.3	60.7	0.32	15.3	15.6	—	61,275	61,275	2.30	1.89	139	62,036

Area	2.59	22.4	0.26	25.4	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	10,068	10,068	0.72	0.02	—	10,091
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	28.5	45.9	26.6	297	0.65	0.88	60.3	61.2	0.85	15.3	16.1	492	71,511	72,003	52.4	2.08	151	74,085
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.59	4.22	3.63	49.1	0.11	0.06	11.0	11.1	0.06	2.78	2.84	—	10,145	10,145	0.38	0.31	23.0	10,271
Area	0.47	4.09	0.05	4.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,667	1,667	0.12	< 0.005	—	1,671
Water	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Total	5.20	8.37	4.85	54.2	0.12	0.16	11.0	11.2	0.16	2.78	2.94	81.5	11,839	11,921	8.67	0.34	24.9	12,266

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	27.1	25.1	17.4	329	0.66	0.35	60.7	61.0	0.32	15.3	15.7	—	66,344	66,344	2.10	1.73	322	67,233
Area	5.25	24.9	0.53	51.5	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	9,058	9,058	0.72	0.02	—	9,080
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5

Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	33.1	50.3	24.2	383	0.63	0.77	60.5	61.3	0.83	15.3	16.1	483	75,374	75,856	51.2	1.89	334	78,034
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.3	23.2	22.2	264	0.59	0.35	60.7	61.0	0.32	15.3	15.7	—	59,719	59,719	2.49	2.04	8.35	60,397
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	9,058	9,058	0.72	0.02	—	9,080
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	26.1	43.4	28.5	267	0.57	0.74	60.5	61.3	0.80	15.3	16.1	483	68,610	69,092	51.6	2.21	19.9	71,060
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.2	23.1	19.9	269	0.61	0.35	60.3	60.7	0.32	15.3	15.6	—	61,275	61,275	2.30	1.89	139	62,036
Area	2.59	22.4	0.26	25.4	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	9,058	9,058	0.72	0.02	—	9,080
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	28.5	45.8	26.5	297	0.58	0.75	60.2	60.9	0.81	15.2	16.0	483	70,235	70,717	51.4	2.06	151	72,767
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.59	4.22	3.63	49.1	0.11	0.06	11.0	11.1	0.06	2.78	2.84	—	10,145	10,145	0.38	0.31	23.0	10,271
Area	0.47	4.09	0.05	4.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,500	1,500	0.12	< 0.005	—	1,503

Water	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Vegetation	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8
Total	5.20	8.36	4.83	54.2	0.11	0.14	11.0	11.1	0.15	2.78	2.93	79.9	11,628	11,708	8.51	0.34	24.9	12,047

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.2. Demolition (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.3. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	3.23	3.23	—	1.66	1.66	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—

Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.4. Site Preparation (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	1.26	1.26	—	0.65	0.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.5. Grading (2023) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.6. Grading (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.7. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790

Dust From Material Movement	—	—	—	—	—	—	1.10	1.10	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Hauling	0.00	0.00	0.00	0.00	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. Grading (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Mitigated

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

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

Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.18. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.19. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.20. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architect Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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

4.1. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	27.1	25.1	17.4	329	0.66	0.35	60.7	61.0	0.32	15.3	15.7	—	66,344	66,344	2.10	1.73	322	67,233
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	27.1	25.1	17.4	329	0.66	0.35	60.7	61.0	0.32	15.3	15.7	—	66,344	66,344	2.10	1.73	322	67,233
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	25.3	23.2	22.2	264	0.59	0.35	60.7	61.0	0.32	15.3	15.7	—	59,719	59,719	2.49	2.04	8.35	60,397
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	25.3	23.2	22.2	264	0.59	0.35	60.7	61.0	0.32	15.3	15.7	—	59,719	59,719	2.49	2.04	8.35	60,397
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	4.59	4.22	3.63	49.1	0.11	0.06	11.0	11.1	0.06	2.78	2.84	—	10,145	10,145	0.38	0.31	23.0	10,271
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	4.59	4.22	3.63	49.1	0.11	0.06	11.0	11.1	0.06	2.78	2.84	—	10,145	10,145	0.38	0.31	23.0	10,271

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	27.1	25.1	17.4	329	0.66	0.35	60.7	61.0	0.32	15.3	15.7	—	66,344	66,344	2.10	1.73	322	67,233
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	27.1	25.1	17.4	329	0.66	0.35	60.7	61.0	0.32	15.3	15.7	—	66,344	66,344	2.10	1.73	322	67,233

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	25.3	23.2	22.2	264	0.59	0.35	60.7	61.0	0.32	15.3	15.7	—	59,719	59,719	2.49	2.04	8.35	60,397
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	25.3	23.2	22.2	264	0.59	0.35	60.7	61.0	0.32	15.3	15.7	—	59,719	59,719	2.49	2.04	8.35	60,397
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	4.59	4.22	3.63	49.1	0.11	0.06	11.0	11.1	0.06	2.78	2.84	—	10,145	10,145	0.38	0.31	23.0	10,271
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	4.59	4.22	3.63	49.1	0.11	0.06	11.0	11.1	0.06	2.78	2.84	—	10,145	10,145	0.38	0.31	23.0	10,271

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	271	271	0.00	0.00	—	271
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	45.9	45.9	0.00	0.00	—	45.9
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	317	317	0.00	0.00	—	317

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	135	135	0.00	0.00	—	135
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	16.0	16.0	0.00	0.00	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	151	151	0.00	0.00	—	151

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,666	6,666	0.59	0.01	—	6,684
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,488	1,488	0.13	< 0.005	—	1,492
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,154	8,154	0.72	0.02	—	8,177
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,666	6,666	0.59	0.01	—	6,684
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,488	1,488	0.13	< 0.005	—	1,492
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,154	8,154	0.72	0.02	—	8,177
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.11	0.06	0.96	0.41	0.01	0.08	—	0.08	0.08	—	0.08	—	1,104	1,104	0.10	< 0.005	—	1,107
Condo/Townhouse	0.03	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	246	246	0.02	< 0.005	—	247
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	—	0.00
Total	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,350	1,350	0.12	< 0.005	—	1,354

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,662	6,662	0.59	0.01	—	6,680
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,486	1,486	0.13	< 0.005	—	1,491
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,148	8,148	0.72	0.02	—	8,171
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,662	6,662	0.59	0.01	—	6,680
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,486	1,486	0.13	< 0.005	—	1,491
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,148	8,148	0.72	0.02	—	8,171
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.11	0.06	0.96	0.41	0.01	0.08	—	0.08	0.08	—	0.08	—	1,103	1,103	0.10	< 0.005	—	1,106
Condo/Townhouse	0.03	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	246	246	0.02	< 0.005	—	247
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	—	0.00
Total	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,349	1,349	0.12	< 0.005	—	1,353

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.25	4.98	0.53	51.5	< 0.005	0.03	—	0.03	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	5.25	24.9	0.53	51.5	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consum Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.47	0.45	0.05	4.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.47	4.09	0.05	4.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.25	4.98	0.53	51.5	< 0.005	0.03	—	0.03	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	5.25	24.9	0.53	51.5	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.47	0.45	0.05	4.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.47	4.09	0.05	4.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332

Condo/Townhous	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	9.23	15.3	24.6	0.95	0.02	—	54.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.64	9.04	16.7	0.78	0.02	—	41.8
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2

City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

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

4.10.6. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Californi Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-11.3
Subtotal	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	-11.3

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-26.5
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	-26.5
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2023	9/14/2023	5.00	10.0	—
Site Preparation	Site Preparation	9/15/2023	12/7/2023	5.00	60.0	—
Grading	Grading	12/8/2023	3/1/2024	5.00	61.0	—
Building Construction	Building Construction	3/2/2024	6/18/2026	5.00	599	—
Paving	Paving	6/19/2026	11/5/2026	5.00	100	—
Architectural Coating	Architectural Coating	11/6/2026	3/25/2027	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
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	3,252,656	1,084,219	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	15,000	—
Site Preparation	0.00	0.00	90.0	0.00	—

Grading	0.00	0.00	183	0.00	—
Paving	0.00	0.00	0.00	0.00	7.88

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	7.88	0%
Condo/Townhouse	—	0%
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
2023	0.00	204	0.03	< 0.005
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

City Park	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
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	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

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0

Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
3252656.25	1,084,219	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	6,095,882	98.0	0.0000	0.0000	20,799,368
Condo/Townhouse	1,031,832	98.0	0.0000	0.0000	4,643,989
City Park	0.00	98.0	0.0000	0.0000	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)
Single Family Housing	3,027,997	98.0	0.0000	0.0000	20,786,524
Condo/Townhouse	360,087	98.0	0.0000	0.0000	4,638,109
City Park	0.00	98.0	0.0000	0.0000	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	29,081,749	143,669,355
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	24,073,872	71,792,639
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—

Condo/Townhouse	148	—
City Park	0.89	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—
Condo/Townhouse	148	—
City Park	0.89	—

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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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)
California Black Oak	915	2,536,544	3,480

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	17.9	annual days of extreme heat
Extreme Precipitation	2.90	annual days with precipitation above 20 mm
Sea Level Rise	0.00	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
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	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	53.4
AQ-DPM	42.7
Drinking Water	98.8
Lead Risk Housing	6.19
Pesticides	83.8
Toxic Releases	49.9
Traffic	36.1
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	57.2
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	58.7
Solid Waste	88.9
Sensitive Population	—
Asthma	89.7
Cardio-vascular	92.6

Low Birth Weights	27.6
Socioeconomic Factor Indicators	—
Education	41.6
Housing	7.69
Linguistic	13.3
Poverty	22.9
Unemployment	66.6

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	62.8127807
Employed	49.30065443
Median HI	67.57346336
Education	—
Bachelor's or higher	43.80854613
High school enrollment	100
Preschool enrollment	4.478378032
Transportation	—
Auto Access	67.17567047
Active commuting	20.54407802
Social	—
2-parent households	79.73822661
Voting	83.58783524
Neighborhood	—
Alcohol availability	91.6078532

Park access	39.76645708
Retail density	9.534197357
Supermarket access	30.77120493
Tree canopy	56.25561401
Housing	—
Homeownership	89.79853715
Housing habitability	88.99011934
Low-inc homeowner severe housing cost burden	87.11664314
Low-inc renter severe housing cost burden	80.39266008
Uncrowded housing	80.21301168
Health Outcomes	—
Insured adults	73.18105993
Arthritis	11.5
Asthma ER Admissions	7.7
High Blood Pressure	9.1
Cancer (excluding skin)	12.2
Asthma	51.9
Coronary Heart Disease	19.3
Chronic Obstructive Pulmonary Disease	35.3
Diagnosed Diabetes	55.5
Life Expectancy at Birth	42.2
Cognitively Disabled	60.3
Physically Disabled	27.7
Heart Attack ER Admissions	16.8
Mental Health Not Good	66.0
Chronic Kidney Disease	35.4
Obesity	44.4

Pedestrian Injuries	70.8
Physical Health Not Good	60.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	36.9
Current Smoker	60.5
No Leisure Time for Physical Activity	58.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	58.1
Elderly	12.9
English Speaking	65.9
Foreign-born	19.5
Outdoor Workers	75.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	54.3
Traffic Density	60.0
Traffic Access	0.0
Other Indices	—
Hardship	40.3
Other Decision Support	—
2016 Voting	83.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	65.0

Healthy Places Index Score for Project Location (b)	57.0
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 Use - Total development lot acreage = 175.67 acres.
Construction: Construction Phases	Buildout assumed to occur by year 2028.
Operations: Vehicle Data	Trip rates as provided by Traffic Impact Analysis (Fehr & Peers). 8,090 daily trips and 86,683 daily VMT. Equivalent to 31,639,113 annual VMT.
Operations: Fleet Mix	Revised Fleet mix to reflect that only home-based trips would occur (therefore, only LDA, LDT1, and LDT2 trips are relevant for this project during project operation). Maintained relative balance between LDA, LDT1, and LDT2 (per the CalEEMod defaults), but adjusted to reflect no other fleet vehicles beyond these three classes.
Operations: Hearths	Assumes no hearths.
Characteristics: Utility Information	Adjusted CO2e intensity factor to 98 lbs/MWh CO2e, based on the most recent (Year 2021) PG&E Power Content Label available (note: merged CO2, CH4, and N2O GHG intensity factors into the CO2 intensity factor, since the Power Content Label data is provided in terms of CO2e): https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label/a

Operations: Consumer Products	Revised General Category consumer products emissions factor to reflect CARB adjustments applied to their Consumer and Commercial Product Survey Emission data, made after the 2008 consumer products emissions factor. Adjustment made to reflect average adjustment factor. See for further detail: https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-products-emissions-inv
Operations: Vehicle EF	Adjusted Operational Vehicle GHG (i.e. CO2, CH4, and N2O) emission factors for relevant vehicle types to reflect rescission of the SAFE Rule repeal.

North Manteca Annexation #1 (2022) - Mitigated Scenario Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	North Manteca Annexation #1 (2022) - Mitigated Scenario
Construction Start Date	9/1/2020
Operational Year	2022
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.00
Location	37.837819220066564, -121.23218578140852
County	San Joaquin
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2160
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.18

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

Single Family Housing	715	Dwelling Unit	153	1,394,250	8,374,693	0.00	2,309	—
Condo/Townhouse	200	Dwelling Unit	12.5	212,000	0.00	0.00	646	—
City Park	10.4	Acre	10.4	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads
Transportation	T-31-B*	Improve Destination Accessibility in Underserved Areas
Transportation	T-32*	Orient Project Toward Transit, Bicycle, or Pedestrian Facility
Energy	E-2	Require Energy Efficient Appliances
Energy	E-7*	Require Higher Efficacy Public Street and Area Lighting
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-12-B	Install Electric Space Heater in Place of Natural Gas Heaters in Residences
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes
Natural Lands	N-2	Expand Urban Tree Planting

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	4.04	39.8	37.2	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	9,009	9,009	0.33	0.59	22.8	9,215
Mit.	4.79	4.04	39.8	37.2	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	9,009	9,009	0.33	0.59	22.8	9,215
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	101	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	8,644	8,644	0.36	0.59	0.59	8,829
Mit.	4.79	101	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	8,644	8,644	0.36	0.59	0.59	8,829
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.60	16.6	13.9	23.3	0.03	0.49	3.75	4.15	0.46	1.85	2.22	—	6,148	6,148	0.24	0.41	6.60	6,280
Mit.	2.60	16.6	13.9	23.3	0.03	0.49	2.93	3.39	0.46	0.77	1.22	—	6,148	6,148	0.24	0.41	6.60	6,280
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.47	3.03	2.54	4.26	0.01	0.09	0.68	0.76	0.08	0.34	0.41	—	1,018	1,018	0.04	0.07	1.09	1,040
Mit.	0.47	3.03	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	1,018	1,018	0.04	0.07	1.09	1,040
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	9.37	10.8	1.33	3.69	5.03	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	3.75	4.15	0.37	1.85	2.22	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	3.56	4.06	0.46	1.03	1.49	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.68	0.76	0.07	0.34	0.41	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.65	0.74	0.08	0.19	0.27	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040
2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	4.12	5.21	1.33	1.46	2.80	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	1.51	1.92	0.37	0.73	1.10	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	2.89	3.39	0.46	0.77	1.22	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.28	0.35	0.07	0.13	0.20	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040

2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	32.5	50.1	18.6	380	0.66	0.43	60.7	61.1	0.40	15.3	15.7	492	69,337	69,829	51.6	1.90	334	72,018
Mit.	32.5	50.0	18.4	380	0.60	0.30	60.5	60.8	0.36	15.3	15.7	483	68,061	68,543	50.6	1.88	334	70,701
% Reduced	—	< 0.5%	1%	< 0.5%	10%	31%	< 0.5%	< 0.5%	9%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	25.4	43.2	22.8	265	0.59	0.40	60.7	61.1	0.37	15.3	15.7	492	62,573	63,065	51.9	2.21	19.9	65,044
Mit.	25.4	43.1	22.7	265	0.53	0.27	60.5	60.8	0.34	15.3	15.6	483	61,297	61,779	51.0	2.19	19.9	63,726
% Reduced	—	< 0.5%	1%	< 0.5%	11%	33%	< 0.5%	< 0.5%	10%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	27.8	45.5	20.8	295	0.61	0.42	60.3	60.7	0.39	15.3	15.6	492	64,198	64,690	51.7	2.07	151	66,751
Mit.	27.8	45.5	20.7	295	0.55	0.28	60.2	60.5	0.35	15.2	15.6	483	62,921	63,404	50.8	2.05	151	65,433
% Reduced	—	< 0.5%	1%	< 0.5%	11%	32%	< 0.5%	< 0.5%	9%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.08	8.31	3.80	53.8	0.11	0.08	11.0	11.1	0.07	2.78	2.85	81.5	10,629	10,710	8.57	0.34	24.9	11,051
Mit.	5.08	8.30	3.78	53.8	0.10	0.05	11.0	11.0	0.06	2.78	2.84	79.9	10,417	10,497	8.40	0.34	24.9	10,833

% Reduced	< 0.5%	< 0.5%	1%	< 0.5%	11%	32%	< 0.5%	< 0.5%	9%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	27.1	25.1	17.4	329	0.66	0.35	60.7	61.0	0.32	15.3	15.7	—	66,344	66,344	2.10	1.73	322	67,233
Area	5.25	24.9	0.53	51.5	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	2,755	2,755	0.07	< 0.005	—	2,757
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	32.5	50.1	18.6	380	0.66	0.43	60.7	61.1	0.40	15.3	15.7	492	69,337	69,829	51.6	1.90	334	72,018
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.3	23.2	22.2	264	0.59	0.35	60.7	61.0	0.32	15.3	15.7	—	59,719	59,719	2.49	2.04	8.35	60,397
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	2,755	2,755	0.07	< 0.005	—	2,757
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	25.4	43.2	22.8	265	0.59	0.40	60.7	61.1	0.37	15.3	15.7	492	62,573	63,065	51.9	2.21	19.9	65,044
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.2	23.1	19.9	269	0.61	0.35	60.3	60.7	0.32	15.3	15.6	—	61,275	61,275	2.30	1.89	139	62,036

Area	2.59	22.4	0.26	25.4	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	2,755	2,755	0.07	< 0.005	—	2,757
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	27.8	45.5	20.8	295	0.61	0.42	60.3	60.7	0.39	15.3	15.6	492	64,198	64,690	51.7	2.07	151	66,751
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.59	4.22	3.63	49.1	0.11	0.06	11.0	11.1	0.06	2.78	2.84	—	10,145	10,145	0.38	0.31	23.0	10,271
Area	0.47	4.09	0.05	4.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	456	456	0.01	< 0.005	—	456
Water	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Total	5.08	8.31	3.80	53.8	0.11	0.08	11.0	11.1	0.07	2.78	2.85	81.5	10,629	10,710	8.57	0.34	24.9	11,051

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	27.1	25.1	17.4	329	0.66	0.35	60.7	61.0	0.32	15.3	15.7	—	66,344	66,344	2.10	1.73	322	67,233
Area	5.25	24.9	0.53	51.5	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	1,745	1,745	0.07	< 0.005	—	1,747
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5

Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	32.5	50.0	18.4	380	0.60	0.30	60.5	60.8	0.36	15.3	15.7	483	68,061	68,543	50.6	1.88	334	70,701
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.3	23.2	22.2	264	0.59	0.35	60.7	61.0	0.32	15.3	15.7	—	59,719	59,719	2.49	2.04	8.35	60,397
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	1,745	1,745	0.07	< 0.005	—	1,747
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	25.4	43.1	22.7	265	0.53	0.27	60.5	60.8	0.34	15.3	15.6	483	61,297	61,779	51.0	2.19	19.9	63,726
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.2	23.1	19.9	269	0.61	0.35	60.3	60.7	0.32	15.3	15.6	—	61,275	61,275	2.30	1.89	139	62,036
Area	2.59	22.4	0.26	25.4	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	1,745	1,745	0.07	< 0.005	—	1,747
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	27.8	45.5	20.7	295	0.55	0.28	60.2	60.5	0.35	15.2	15.6	483	62,921	63,404	50.8	2.05	151	65,433
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.59	4.22	3.63	49.1	0.11	0.06	11.0	11.1	0.06	2.78	2.84	—	10,145	10,145	0.38	0.31	23.0	10,271
Area	0.47	4.09	0.05	4.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	289	289	0.01	< 0.005	—	289

Water	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Vegetation	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8
Total	5.08	8.30	3.78	53.8	0.10	0.05	11.0	11.0	0.06	2.78	2.84	79.9	10,417	10,497	8.40	0.34	24.9	10,833

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.2. Demolition (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.3. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	3.23	3.23	—	1.66	1.66	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—

Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.4. Site Preparation (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	1.26	1.26	—	0.65	0.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.5. Grading (2023) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.6. Grading (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.7. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790

Dust From Material Movement	—	—	—	—	—	—	1.10	1.10	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Hauling	0.00	0.00	0.00	0.00	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. Grading (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Mitigated

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

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

Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.18. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.19. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.20. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architect Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architect ural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architect ural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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

4.1. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	27.1	25.1	17.4	329	0.66	0.35	60.7	61.0	0.32	15.3	15.7	—	66,344	66,344	2.10	1.73	322	67,233
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	27.1	25.1	17.4	329	0.66	0.35	60.7	61.0	0.32	15.3	15.7	—	66,344	66,344	2.10	1.73	322	67,233
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	25.3	23.2	22.2	264	0.59	0.35	60.7	61.0	0.32	15.3	15.7	—	59,719	59,719	2.49	2.04	8.35	60,397
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	25.3	23.2	22.2	264	0.59	0.35	60.7	61.0	0.32	15.3	15.7	—	59,719	59,719	2.49	2.04	8.35	60,397
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	4.59	4.22	3.63	49.1	0.11	0.06	11.0	11.1	0.06	2.78	2.84	—	10,145	10,145	0.38	0.31	23.0	10,271
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	4.59	4.22	3.63	49.1	0.11	0.06	11.0	11.1	0.06	2.78	2.84	—	10,145	10,145	0.38	0.31	23.0	10,271

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	27.1	25.1	17.4	329	0.66	0.35	60.7	61.0	0.32	15.3	15.7	—	66,344	66,344	2.10	1.73	322	67,233
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	27.1	25.1	17.4	329	0.66	0.35	60.7	61.0	0.32	15.3	15.7	—	66,344	66,344	2.10	1.73	322	67,233

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	25.3	23.2	22.2	264	0.59	0.35	60.7	61.0	0.32	15.3	15.7	—	59,719	59,719	2.49	2.04	8.35	60,397
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	25.3	23.2	22.2	264	0.59	0.35	60.7	61.0	0.32	15.3	15.7	—	59,719	59,719	2.49	2.04	8.35	60,397
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	4.59	4.22	3.63	49.1	0.11	0.06	11.0	11.1	0.06	2.78	2.84	—	10,145	10,145	0.38	0.31	23.0	10,271
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	4.59	4.22	3.63	49.1	0.11	0.06	11.0	11.1	0.06	2.78	2.84	—	10,145	10,145	0.38	0.31	23.0	10,271

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	271	271	0.00	0.00	—	271
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	45.9	45.9	0.00	0.00	—	45.9
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	317	317	0.00	0.00	—	317

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	135	135	0.00	0.00	—	135
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	16.0	16.0	0.00	0.00	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	151	151	0.00	0.00	—	151

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	153	153	0.01	< 0.005	—	154
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	841	841	0.07	< 0.005	—	843
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	153	153	0.01	< 0.005	—	154
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	841	841	0.07	< 0.005	—	843
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.4	25.4	< 0.005	< 0.005	—	25.5
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	—	0.00
Total	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	139	139	0.01	< 0.005	—	140

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	683	683	0.06	< 0.005	—	685
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	152	152	0.01	< 0.005	—	152
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	835	835	0.07	< 0.005	—	837
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	683	683	0.06	< 0.005	—	685
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	152	152	0.01	< 0.005	—	152
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	835	835	0.07	< 0.005	—	837
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	113	113	0.01	< 0.005	—	113
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.1	25.1	< 0.005	< 0.005	—	25.2
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	—	0.00
Total	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	138	138	0.01	< 0.005	—	139

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.25	4.98	0.53	51.5	< 0.005	0.03	—	0.03	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	5.25	24.9	0.53	51.5	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consum Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.47	0.45	0.05	4.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.47	4.09	0.05	4.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.25	4.98	0.53	51.5	< 0.005	0.03	—	0.03	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	5.25	24.9	0.53	51.5	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.47	0.45	0.05	4.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.47	4.09	0.05	4.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332

Condo/T ownhous	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332
Condo/T ownhous e	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	9.23	15.3	24.6	0.95	0.02	—	54.9
Condo/T ownhous e	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.64	9.04	16.7	0.78	0.02	—	41.8
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2

City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

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

4.10.6. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Californi Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-11.3
Subtotal	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	-11.3

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-26.5
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	-26.5
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2023	9/14/2023	5.00	10.0	—
Site Preparation	Site Preparation	9/15/2023	12/7/2023	5.00	60.0	—
Grading	Grading	12/8/2023	3/1/2024	5.00	61.0	—
Building Construction	Building Construction	3/2/2024	6/18/2026	5.00	599	—
Paving	Paving	6/19/2026	11/5/2026	5.00	100	—
Architectural Coating	Architectural Coating	11/6/2026	3/25/2027	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
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	3,252,656	1,084,219	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	15,000	—
Site Preparation	0.00	0.00	90.0	0.00	—

Grading	0.00	0.00	183	0.00	—
Paving	0.00	0.00	0.00	0.00	7.88

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	7.88	0%
Condo/Townhouse	—	0%
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
2023	0.00	204	0.03	< 0.005
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

City Park	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
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	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

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0

Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
3252656.25	1,084,219	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	6,095,882	98.0	0.0000	0.0000	2,145,134
Condo/Townhouse	1,031,832	98.0	0.0000	0.0000	478,956
City Park	0.00	98.0	0.0000	0.0000	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)
Single Family Housing	3,027,997	98.0	0.0000	0.0000	2,132,290
Condo/Townhouse	360,087	98.0	0.0000	0.0000	473,076
City Park	0.00	98.0	0.0000	0.0000	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	29,081,749	143,669,355
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	24,073,872	71,792,639
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—

Condo/Townhouse	148	—
City Park	0.89	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—
Condo/Townhouse	148	—
City Park	0.89	—

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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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)
California Black Oak	915	2,536,544	3,480

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	17.9	annual days of extreme heat
Extreme Precipitation	2.90	annual days with precipitation above 20 mm
Sea Level Rise	0.00	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
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	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	53.4
AQ-DPM	42.7
Drinking Water	98.8
Lead Risk Housing	6.19
Pesticides	83.8
Toxic Releases	49.9
Traffic	36.1
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	57.2
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	58.7
Solid Waste	88.9
Sensitive Population	—
Asthma	89.7
Cardio-vascular	92.6

Low Birth Weights	27.6
Socioeconomic Factor Indicators	—
Education	41.6
Housing	7.69
Linguistic	13.3
Poverty	22.9
Unemployment	66.6

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	62.8127807
Employed	49.30065443
Median HI	67.57346336
Education	—
Bachelor's or higher	43.80854613
High school enrollment	100
Preschool enrollment	4.478378032
Transportation	—
Auto Access	67.17567047
Active commuting	20.54407802
Social	—
2-parent households	79.73822661
Voting	83.58783524
Neighborhood	—
Alcohol availability	91.6078532

Park access	39.76645708
Retail density	9.534197357
Supermarket access	30.77120493
Tree canopy	56.25561401
Housing	—
Homeownership	89.79853715
Housing habitability	88.99011934
Low-inc homeowner severe housing cost burden	87.11664314
Low-inc renter severe housing cost burden	80.39266008
Uncrowded housing	80.21301168
Health Outcomes	—
Insured adults	73.18105993
Arthritis	11.5
Asthma ER Admissions	7.7
High Blood Pressure	9.1
Cancer (excluding skin)	12.2
Asthma	51.9
Coronary Heart Disease	19.3
Chronic Obstructive Pulmonary Disease	35.3
Diagnosed Diabetes	55.5
Life Expectancy at Birth	42.2
Cognitively Disabled	60.3
Physically Disabled	27.7
Heart Attack ER Admissions	16.8
Mental Health Not Good	66.0
Chronic Kidney Disease	35.4
Obesity	44.4

Pedestrian Injuries	70.8
Physical Health Not Good	60.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	36.9
Current Smoker	60.5
No Leisure Time for Physical Activity	58.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	58.1
Elderly	12.9
English Speaking	65.9
Foreign-born	19.5
Outdoor Workers	75.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	54.3
Traffic Density	60.0
Traffic Access	0.0
Other Indices	—
Hardship	40.3
Other Decision Support	—
2016 Voting	83.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	65.0

Healthy Places Index Score for Project Location (b)	57.0
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 Use - Total development lot acreage = 175.67 acres.
Construction: Construction Phases	Buildout assumed to occur by year 2028.
Operations: Vehicle Data	Trip rates as provided by Traffic Impact Analysis (Fehr & Peers). 8,090 daily trips and 86,683 daily VMT. Equivalent to 31,639,113 annual VMT.
Operations: Fleet Mix	Revised Fleet mix to reflect that only home-based trips would occur (therefore, only LDA, LDT1, and LDT2 trips are relevant for this project during project operation). Maintained relative balance between LDA, LDT1, and LDT2 (per the CalEEMod defaults), but adjusted to reflect no other fleet vehicles beyond these three classes.
Operations: Hearths	Assumes no hearths.
Characteristics: Utility Information	Adjusted CO2e intensity factor to 98 lbs/MWh CO2e, based on the most recent (Year 2021) PG&E Power Content Label available (note: merged CO2, CH4, and N2O GHG intensity factors into the CO2 intensity factor, since the Power Content Label data is provided in terms of CO2e): https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label/a

Operations: Consumer Products	Revised General Category consumer products emissions factor to reflect CARB adjustments applied to their Consumer and Commercial Product Survey Emission data, made after the 2008 consumer products emissions factor. Adjustment made to reflect average adjustment factor. See for further detail: https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-products-emissions-inv
Operations: Vehicle EF	Adjusted Operational Vehicle GHG (i.e. CO_2, CH_4, and N_2O) emission factors for relevant vehicle types to reflect rescission of the SAFE Rule repeal.
Operations: Energy Use	The applicant stated that the only features of the Project that would utilize natural gas are: 1) cook stovetops, and 2) BBQs. Therefore, natural gas consumption calculated based on specification sheets provided by applicant and publicly available information.

North Manteca Annexation #1 (2025) - Unmitigated Scenario Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	North Manteca Annexation #1 (2025) - Unmitigated Scenario
Construction Start Date	9/1/2023
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.00
Location	37.837819220066564, -121.23218578140852
County	San Joaquin
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2160
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.18

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

Single Family Housing	715	Dwelling Unit	153	1,394,250	8,374,693	0.00	2,309	—
Condo/Townhouse	200	Dwelling Unit	12.5	212,000	0.00	0.00	646	—
City Park	10.4	Acre	10.4	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads
Transportation	T-31-B*	Improve Destination Accessibility in Underserved Areas
Transportation	T-32*	Orient Project Toward Transit, Bicycle, or Pedestrian Facility
Energy	E-2	Require Energy Efficient Appliances
Energy	E-7*	Require Higher Efficacy Public Street and Area Lighting
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-12-B	Install Electric Space Heater in Place of Natural Gas Heaters in Residences
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes
Natural Lands	N-2	Expand Urban Tree Planting

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	4.04	39.8	37.2	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	9,009	9,009	0.33	0.59	22.8	9,215
Mit.	4.79	4.04	39.8	37.2	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	9,009	9,009	0.33	0.59	22.8	9,215
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	101	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	8,644	8,644	0.36	0.59	0.59	8,829
Mit.	4.79	101	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	8,644	8,644	0.36	0.59	0.59	8,829
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.60	16.6	13.9	23.3	0.03	0.49	3.75	4.15	0.46	1.85	2.22	—	6,148	6,148	0.24	0.41	6.60	6,280
Mit.	2.60	16.6	13.9	23.3	0.03	0.49	2.93	3.39	0.46	0.77	1.22	—	6,148	6,148	0.24	0.41	6.60	6,280
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.47	3.03	2.54	4.26	0.01	0.09	0.68	0.76	0.08	0.34	0.41	—	1,018	1,018	0.04	0.07	1.09	1,040
Mit.	0.47	3.03	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	1,018	1,018	0.04	0.07	1.09	1,040
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	9.37	10.8	1.33	3.69	5.03	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	3.75	4.15	0.37	1.85	2.22	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	3.56	4.06	0.46	1.03	1.49	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.68	0.76	0.07	0.34	0.41	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.65	0.74	0.08	0.19	0.27	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040
2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	4.12	5.21	1.33	1.46	2.80	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	1.51	1.92	0.37	0.73	1.10	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	2.89	3.39	0.46	0.77	1.22	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.28	0.35	0.07	0.13	0.20	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040

2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	27.7	45.6	19.4	316	0.65	0.85	60.7	61.5	0.82	15.3	16.2	492	71,761	72,253	51.7	1.61	247	74,272
Mit.	27.7	45.5	19.3	316	0.58	0.72	60.5	61.3	0.78	15.3	16.1	483	70,485	70,967	50.7	1.58	247	72,954
% Reduced	—	< 0.5%	1%	< 0.5%	10%	16%	< 0.5%	< 0.5%	4%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	21.3	39.4	22.3	213	0.59	0.82	60.7	61.5	0.80	15.3	16.1	492	65,517	66,009	52.1	1.86	17.6	67,882
Mit.	21.3	39.3	22.1	213	0.52	0.69	60.5	61.2	0.76	15.3	16.1	483	64,241	64,723	51.1	1.83	17.6	66,564
% Reduced	—	< 0.5%	1%	< 0.5%	11%	16%	< 0.5%	< 0.5%	5%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	23.7	41.6	20.9	242	0.60	0.84	60.3	61.2	0.81	15.3	16.1	492	67,023	67,515	51.9	1.74	113	69,445
Mit.	23.7	41.5	20.8	242	0.54	0.70	60.2	60.9	0.77	15.2	16.0	483	65,747	66,229	50.9	1.72	113	68,127
% Reduced	—	< 0.5%	1%	< 0.5%	11%	16%	< 0.5%	< 0.5%	4%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.32	7.60	3.82	44.2	0.11	0.15	11.0	11.2	0.15	2.78	2.93	81.5	11,096	11,178	8.59	0.29	18.7	11,497
Mit.	4.32	7.58	3.79	44.2	0.10	0.13	11.0	11.1	0.14	2.78	2.92	79.9	10,885	10,965	8.43	0.28	18.7	11,279

% Reduced	< 0.5%	< 0.5%	1%	< 0.5%	11%	16%	< 0.5%	< 0.5%	4%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.0	20.6	12.5	261	0.61	0.30	60.7	61.0	0.28	15.3	15.6	—	61,455	61,455	1.63	1.42	235	62,153
Area	4.92	24.6	0.51	51.8	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	10,068	10,068	0.72	0.02	—	10,091
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	27.7	45.6	19.4	316	0.65	0.85	60.7	61.5	0.82	15.3	16.2	492	71,761	72,253	51.7	1.61	247	74,272
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	20.6	19.1	15.9	210	0.55	0.30	60.7	61.0	0.28	15.3	15.6	—	55,349	55,349	1.96	1.67	6.10	55,902
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	10,068	10,068	0.72	0.02	—	10,091
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	21.3	39.4	22.3	213	0.59	0.82	60.7	61.5	0.80	15.3	16.1	492	65,517	66,009	52.1	1.86	17.6	67,882
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	20.5	19.0	14.2	214	0.56	0.30	60.3	60.6	0.28	15.3	15.5	—	56,787	56,787	1.80	1.55	102	57,396

Area	2.43	22.2	0.25	25.5	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	10,068	10,068	0.72	0.02	—	10,091
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	23.7	41.6	20.9	242	0.60	0.84	60.3	61.2	0.81	15.3	16.1	492	67,023	67,515	51.9	1.74	113	69,445
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.74	3.47	2.60	39.1	0.10	0.06	11.0	11.1	0.05	2.78	2.83	—	9,402	9,402	0.30	0.26	16.8	9,503
Area	0.44	4.06	0.05	4.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,667	1,667	0.12	< 0.005	—	1,671
Water	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Total	4.32	7.60	3.82	44.2	0.11	0.15	11.0	11.2	0.15	2.78	2.93	81.5	11,096	11,178	8.59	0.29	18.7	11,497

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.0	20.6	12.5	261	0.61	0.30	60.7	61.0	0.28	15.3	15.6	—	61,455	61,455	1.63	1.42	235	62,153
Area	4.92	24.6	0.51	51.8	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	9,058	9,058	0.72	0.02	—	9,080
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5

Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	27.7	45.5	19.3	316	0.58	0.72	60.5	61.3	0.78	15.3	16.1	483	70,485	70,967	50.7	1.58	247	72,954
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	20.6	19.1	15.9	210	0.55	0.30	60.7	61.0	0.28	15.3	15.6	—	55,349	55,349	1.96	1.67	6.10	55,902
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	9,058	9,058	0.72	0.02	—	9,080
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	21.3	39.3	22.1	213	0.52	0.69	60.5	61.2	0.76	15.3	16.1	483	64,241	64,723	51.1	1.83	17.6	66,564
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	20.5	19.0	14.2	214	0.56	0.30	60.3	60.6	0.28	15.3	15.5	—	56,787	56,787	1.80	1.55	102	57,396
Area	2.43	22.2	0.25	25.5	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	9,058	9,058	0.72	0.02	—	9,080
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	23.7	41.5	20.8	242	0.54	0.70	60.2	60.9	0.77	15.2	16.0	483	65,747	66,229	50.9	1.72	113	68,127
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.74	3.47	2.60	39.1	0.10	0.06	11.0	11.1	0.05	2.78	2.83	—	9,402	9,402	0.30	0.26	16.8	9,503
Area	0.44	4.06	0.05	4.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,500	1,500	0.12	< 0.005	—	1,503

Water	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Vegetation	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8
Total	4.32	7.58	3.79	44.2	0.10	0.13	11.0	11.1	0.14	2.78	2.92	79.9	10,885	10,965	8.43	0.28	18.7	11,279

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.2. Demolition (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.3. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	3.23	3.23	—	1.66	1.66	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—

Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.4. Site Preparation (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	1.26	1.26	—	0.65	0.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.5. Grading (2023) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.6. Grading (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.7. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790

Dust From Material Movement	—	—	—	—	—	—	1.10	1.10	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Hauling	0.00	0.00	0.00	0.00	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. Grading (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Mitigated

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

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

Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.18. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.19. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.20. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architect Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architect ural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architect ural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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

4.1. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	22.0	20.6	12.5	261	0.61	0.30	60.7	61.0	0.28	15.3	15.6	—	61,455	61,455	1.63	1.42	235	62,153
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	22.0	20.6	12.5	261	0.61	0.30	60.7	61.0	0.28	15.3	15.6	—	61,455	61,455	1.63	1.42	235	62,153
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	20.6	19.1	15.9	210	0.55	0.30	60.7	61.0	0.28	15.3	15.6	—	55,349	55,349	1.96	1.67	6.10	55,902
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	20.6	19.1	15.9	210	0.55	0.30	60.7	61.0	0.28	15.3	15.6	—	55,349	55,349	1.96	1.67	6.10	55,902
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.74	3.47	2.60	39.1	0.10	0.06	11.0	11.1	0.05	2.78	2.83	—	9,402	9,402	0.30	0.26	16.8	9,503
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	3.74	3.47	2.60	39.1	0.10	0.06	11.0	11.1	0.05	2.78	2.83	—	9,402	9,402	0.30	0.26	16.8	9,503

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	22.0	20.6	12.5	261	0.61	0.30	60.7	61.0	0.28	15.3	15.6	—	61,455	61,455	1.63	1.42	235	62,153
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	22.0	20.6	12.5	261	0.61	0.30	60.7	61.0	0.28	15.3	15.6	—	61,455	61,455	1.63	1.42	235	62,153

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	20.6	19.1	15.9	210	0.55	0.30	60.7	61.0	0.28	15.3	15.6	—	55,349	55,349	1.96	1.67	6.10	55,902
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	20.6	19.1	15.9	210	0.55	0.30	60.7	61.0	0.28	15.3	15.6	—	55,349	55,349	1.96	1.67	6.10	55,902
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.74	3.47	2.60	39.1	0.10	0.06	11.0	11.1	0.05	2.78	2.83	—	9,402	9,402	0.30	0.26	16.8	9,503
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	3.74	3.47	2.60	39.1	0.10	0.06	11.0	11.1	0.05	2.78	2.83	—	9,402	9,402	0.30	0.26	16.8	9,503

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	271	271	0.00	0.00	—	271
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	45.9	45.9	0.00	0.00	—	45.9
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	317	317	0.00	0.00	—	317

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	135	135	0.00	0.00	—	135
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	16.0	16.0	0.00	0.00	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	151	151	0.00	0.00	—	151

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,666	6,666	0.59	0.01	—	6,684
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,488	1,488	0.13	< 0.005	—	1,492
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,154	8,154	0.72	0.02	—	8,177
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,666	6,666	0.59	0.01	—	6,684
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,488	1,488	0.13	< 0.005	—	1,492
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,154	8,154	0.72	0.02	—	8,177
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.11	0.06	0.96	0.41	0.01	0.08	—	0.08	0.08	—	0.08	—	1,104	1,104	0.10	< 0.005	—	1,107
Condo/Townhouse	0.03	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	246	246	0.02	< 0.005	—	247
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	—	0.00
Total	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,350	1,350	0.12	< 0.005	—	1,354

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,662	6,662	0.59	0.01	—	6,680
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,486	1,486	0.13	< 0.005	—	1,491
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,148	8,148	0.72	0.02	—	8,171
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,662	6,662	0.59	0.01	—	6,680
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,486	1,486	0.13	< 0.005	—	1,491
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,148	8,148	0.72	0.02	—	8,171
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.11	0.06	0.96	0.41	0.01	0.08	—	0.08	0.08	—	0.08	—	1,103	1,103	0.10	< 0.005	—	1,106
Condo/Townhouse	0.03	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	246	246	0.02	< 0.005	—	247
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	—	0.00
Total	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,349	1,349	0.12	< 0.005	—	1,353

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.92	4.67	0.51	51.8	< 0.005	0.03	—	0.03	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	4.92	24.6	0.51	51.8	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consum Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.44	0.42	0.05	4.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.44	4.06	0.05	4.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.92	4.67	0.51	51.8	< 0.005	0.03	—	0.03	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	4.92	24.6	0.51	51.8	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.44	0.42	0.05	4.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.44	4.06	0.05	4.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332

Condo/Townhous	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	9.23	15.3	24.6	0.95	0.02	—	54.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.64	9.04	16.7	0.78	0.02	—	41.8
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2

City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

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

4.10.6. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Californi Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-11.3
Subtotal	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	-11.3

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-26.5
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	-26.5
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2023	9/14/2023	5.00	10.0	—
Site Preparation	Site Preparation	9/15/2023	12/7/2023	5.00	60.0	—
Grading	Grading	12/8/2023	3/1/2024	5.00	61.0	—
Building Construction	Building Construction	3/2/2024	6/18/2026	5.00	599	—
Paving	Paving	6/19/2026	11/5/2026	5.00	100	—
Architectural Coating	Architectural Coating	11/6/2026	3/25/2027	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
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	3,252,656	1,084,219	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	15,000	—
Site Preparation	0.00	0.00	90.0	0.00	—

Grading	0.00	0.00	183	0.00	—
Paving	0.00	0.00	0.00	0.00	7.88

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	7.88	0%
Condo/Townhouse	—	0%
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
2023	0.00	204	0.03	< 0.005
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

City Park	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
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	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

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0

Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
3252656.25	1,084,219	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	6,095,882	98.0	0.0000	0.0000	20,799,368
Condo/Townhouse	1,031,832	98.0	0.0000	0.0000	4,643,989
City Park	0.00	98.0	0.0000	0.0000	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO_2 and CH_4 and N_2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	3,027,997	98.0	0.0000	0.0000	20,786,524
Condo/Townhouse	360,087	98.0	0.0000	0.0000	4,638,109
City Park	0.00	98.0	0.0000	0.0000	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	29,081,749	143,669,355
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	24,073,872	71,792,639
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—

Condo/Townhouse	148	—
City Park	0.89	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—
Condo/Townhouse	148	—
City Park	0.89	—

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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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)
California Black Oak	915	2,536,544	3,480

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	17.9	annual days of extreme heat
Extreme Precipitation	2.90	annual days with precipitation above 20 mm
Sea Level Rise	0.00	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
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	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	53.4
AQ-DPM	42.7
Drinking Water	98.8
Lead Risk Housing	6.19
Pesticides	83.8
Toxic Releases	49.9
Traffic	36.1
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	57.2
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	58.7
Solid Waste	88.9
Sensitive Population	—
Asthma	89.7
Cardio-vascular	92.6

Low Birth Weights	27.6
Socioeconomic Factor Indicators	—
Education	41.6
Housing	7.69
Linguistic	13.3
Poverty	22.9
Unemployment	66.6

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	62.8127807
Employed	49.30065443
Median HI	67.57346336
Education	—
Bachelor's or higher	43.80854613
High school enrollment	100
Preschool enrollment	4.478378032
Transportation	—
Auto Access	67.17567047
Active commuting	20.54407802
Social	—
2-parent households	79.73822661
Voting	83.58783524
Neighborhood	—
Alcohol availability	91.6078532

Park access	39.76645708
Retail density	9.534197357
Supermarket access	30.77120493
Tree canopy	56.25561401
Housing	—
Homeownership	89.79853715
Housing habitability	88.99011934
Low-inc homeowner severe housing cost burden	87.11664314
Low-inc renter severe housing cost burden	80.39266008
Uncrowded housing	80.21301168
Health Outcomes	—
Insured adults	73.18105993
Arthritis	11.5
Asthma ER Admissions	7.7
High Blood Pressure	9.1
Cancer (excluding skin)	12.2
Asthma	51.9
Coronary Heart Disease	19.3
Chronic Obstructive Pulmonary Disease	35.3
Diagnosed Diabetes	55.5
Life Expectancy at Birth	42.2
Cognitively Disabled	60.3
Physically Disabled	27.7
Heart Attack ER Admissions	16.8
Mental Health Not Good	66.0
Chronic Kidney Disease	35.4
Obesity	44.4

Pedestrian Injuries	70.8
Physical Health Not Good	60.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	36.9
Current Smoker	60.5
No Leisure Time for Physical Activity	58.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	58.1
Elderly	12.9
English Speaking	65.9
Foreign-born	19.5
Outdoor Workers	75.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	54.3
Traffic Density	60.0
Traffic Access	0.0
Other Indices	—
Hardship	40.3
Other Decision Support	—
2016 Voting	83.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	65.0

Healthy Places Index Score for Project Location (b)	57.0
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 Use - Total development lot acreage = 175.67 acres.
Construction: Construction Phases	Buildout assumed to occur by year 2028.
Operations: Vehicle Data	Trip rates as provided by Traffic Impact Analysis (Fehr & Peers). 8,090 daily trips and 86,683 daily VMT. Equivalent to 31,639,113 annual VMT.
Operations: Fleet Mix	Revised Fleet mix to reflect that only home-based trips would occur (therefore, only LDA, LDT1, and LDT2 trips are relevant for this project during project operation). Maintained relative balance between LDA, LDT1, and LDT2 (per the CalEEMod defaults), but adjusted to reflect no other fleet vehicles beyond these three classes.
Operations: Hearths	Assumes no hearths.
Characteristics: Utility Information	Adjusted CO2e intensity factor to 98 lbs/MWh CO2e, based on the most recent (Year 2021) PG&E Power Content Label available (note: merged CO2, CH4, and N2O GHG intensity factors into the CO2 intensity factor, since the Power Content Label data is provided in terms of CO2e): https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label/a

Operations: Consumer Products	Revised General Category consumer products emissions factor to reflect CARB adjustments applied to their Consumer and Commercial Product Survey Emission data, made after the 2008 consumer products emissions factor. Adjustment made to reflect average adjustment factor. See for further detail: https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-products-emissions-inv
Operations: Vehicle EF	Adjusted Operational Vehicle GHG (i.e. CO2, CH4, and N2O) emission factors for relevant vehicle types to reflect rescission of the SAFE Rule repeal.

North Manteca Annexation #1 (2025) - Mitigated Scenario Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	North Manteca Annexation #1 (2025) - Mitigated Scenario
Construction Start Date	9/1/2023
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.00
Location	37.837819220066564, -121.23218578140852
County	San Joaquin
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2160
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.18

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

Single Family Housing	715	Dwelling Unit	153	1,394,250	8,374,693	0.00	2,309	—
Condo/Townhouse	200	Dwelling Unit	12.5	212,000	0.00	0.00	646	—
City Park	10.4	Acre	10.4	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads
Transportation	T-31-B*	Improve Destination Accessibility in Underserved Areas
Transportation	T-32*	Orient Project Toward Transit, Bicycle, or Pedestrian Facility
Energy	E-2	Require Energy Efficient Appliances
Energy	E-7*	Require Higher Efficacy Public Street and Area Lighting
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-12-B	Install Electric Space Heater in Place of Natural Gas Heaters in Residences
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes
Natural Lands	N-2	Expand Urban Tree Planting

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	4.04	39.8	37.2	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	9,009	9,009	0.33	0.59	22.8	9,215
Mit.	4.79	4.04	39.8	37.2	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	9,009	9,009	0.33	0.59	22.8	9,215
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	101	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	8,644	8,644	0.36	0.59	0.59	8,829
Mit.	4.79	101	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	8,644	8,644	0.36	0.59	0.59	8,829
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.60	16.6	13.9	23.3	0.03	0.49	3.75	4.15	0.46	1.85	2.22	—	6,148	6,148	0.24	0.41	6.60	6,280
Mit.	2.60	16.6	13.9	23.3	0.03	0.49	2.93	3.39	0.46	0.77	1.22	—	6,148	6,148	0.24	0.41	6.60	6,280
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.47	3.03	2.54	4.26	0.01	0.09	0.68	0.76	0.08	0.34	0.41	—	1,018	1,018	0.04	0.07	1.09	1,040
Mit.	0.47	3.03	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	1,018	1,018	0.04	0.07	1.09	1,040
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	9.37	10.8	1.33	3.69	5.03	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	3.75	4.15	0.37	1.85	2.22	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	3.56	4.06	0.46	1.03	1.49	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.68	0.76	0.07	0.34	0.41	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.65	0.74	0.08	0.19	0.27	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040
2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	4.12	5.21	1.33	1.46	2.80	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	1.51	1.92	0.37	0.73	1.10	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	2.89	3.39	0.46	0.77	1.22	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.28	0.35	0.07	0.13	0.20	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040

2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	27.0	45.3	13.6	313	0.61	0.38	60.7	61.1	0.35	15.3	15.7	492	64,448	64,940	51.1	1.59	247	66,939
Mit.	27.0	45.2	13.5	313	0.55	0.25	60.5	60.8	0.32	15.3	15.6	483	63,171	63,654	50.1	1.57	247	65,621
% Reduced	—	< 0.5%	1%	< 0.5%	11%	35%	< 0.5%	< 0.5%	10%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	20.7	39.0	16.5	211	0.55	0.36	60.7	61.0	0.33	15.3	15.7	492	58,204	58,696	51.4	1.84	17.6	60,548
Mit.	20.7	39.0	16.4	211	0.49	0.22	60.5	60.8	0.30	15.3	15.6	483	56,927	57,410	50.4	1.82	17.6	59,231
% Reduced	—	< 0.5%	1%	< 0.5%	12%	37%	< 0.5%	< 0.5%	11%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	23.0	41.3	15.2	240	0.57	0.37	60.3	60.7	0.34	15.3	15.6	492	59,710	60,202	51.3	1.73	113	62,111
Mit.	23.0	41.2	15.0	240	0.50	0.24	60.2	60.4	0.31	15.2	15.5	483	58,434	58,916	50.3	1.70	113	60,794
% Reduced	—	< 0.5%	1%	< 0.5%	12%	36%	< 0.5%	< 0.5%	11%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.19	7.54	2.77	43.8	0.10	0.07	11.0	11.1	0.06	2.78	2.85	81.5	9,886	9,967	8.49	0.29	18.7	10,283
Mit.	4.19	7.52	2.74	43.8	0.09	0.04	11.0	11.0	0.06	2.78	2.83	79.9	9,674	9,754	8.32	0.28	18.7	10,065

% Reduced	< 0.5%	< 0.5%	1%	< 0.5%	12%	36%	< 0.5%	< 0.5%	11%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.0	20.6	12.5	261	0.61	0.30	60.7	61.0	0.28	15.3	15.6	—	61,455	61,455	1.63	1.42	235	62,153
Area	4.92	24.6	0.51	51.8	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	2,755	2,755	0.07	< 0.005	—	2,757
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	27.0	45.3	13.6	313	0.61	0.38	60.7	61.1	0.35	15.3	15.7	492	64,448	64,940	51.1	1.59	247	66,939
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	20.6	19.1	15.9	210	0.55	0.30	60.7	61.0	0.28	15.3	15.6	—	55,349	55,349	1.96	1.67	6.10	55,902
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	2,755	2,755	0.07	< 0.005	—	2,757
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	20.7	39.0	16.5	211	0.55	0.36	60.7	61.0	0.33	15.3	15.7	492	58,204	58,696	51.4	1.84	17.6	60,548
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	20.5	19.0	14.2	214	0.56	0.30	60.3	60.6	0.28	15.3	15.5	—	56,787	56,787	1.80	1.55	102	57,396

Area	2.43	22.2	0.25	25.5	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	2,755	2,755	0.07	< 0.005	—	2,757
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	23.0	41.3	15.2	240	0.57	0.37	60.3	60.7	0.34	15.3	15.6	492	59,710	60,202	51.3	1.73	113	62,111
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.74	3.47	2.60	39.1	0.10	0.06	11.0	11.1	0.05	2.78	2.83	—	9,402	9,402	0.30	0.26	16.8	9,503
Area	0.44	4.06	0.05	4.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	456	456	0.01	< 0.005	—	456
Water	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Total	4.19	7.54	2.77	43.8	0.10	0.07	11.0	11.1	0.06	2.78	2.85	81.5	9,886	9,967	8.49	0.29	18.7	10,283

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.0	20.6	12.5	261	0.61	0.30	60.7	61.0	0.28	15.3	15.6	—	61,455	61,455	1.63	1.42	235	62,153
Area	4.92	24.6	0.51	51.8	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	1,745	1,745	0.07	< 0.005	—	1,747
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5

Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	27.0	45.2	13.5	313	0.55	0.25	60.5	60.8	0.32	15.3	15.6	483	63,171	63,654	50.1	1.57	247	65,621
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	20.6	19.1	15.9	210	0.55	0.30	60.7	61.0	0.28	15.3	15.6	—	55,349	55,349	1.96	1.67	6.10	55,902
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	1,745	1,745	0.07	< 0.005	—	1,747
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	20.7	39.0	16.4	211	0.49	0.22	60.5	60.8	0.30	15.3	15.6	483	56,927	57,410	50.4	1.82	17.6	59,231
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	20.5	19.0	14.2	214	0.56	0.30	60.3	60.6	0.28	15.3	15.5	—	56,787	56,787	1.80	1.55	102	57,396
Area	2.43	22.2	0.25	25.5	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	1,745	1,745	0.07	< 0.005	—	1,747
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	23.0	41.2	15.0	240	0.50	0.24	60.2	60.4	0.31	15.2	15.5	483	58,434	58,916	50.3	1.70	113	60,794
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.74	3.47	2.60	39.1	0.10	0.06	11.0	11.1	0.05	2.78	2.83	—	9,402	9,402	0.30	0.26	16.8	9,503
Area	0.44	4.06	0.05	4.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	289	289	0.01	< 0.005	—	289

Water	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Vegetation	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8
Total	4.19	7.52	2.74	43.8	0.09	0.04	11.0	11.0	0.06	2.78	2.83	79.9	9,674	9,754	8.32	0.28	18.7	10,065

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.2. Demolition (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.3. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	3.23	3.23	—	1.66	1.66	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—

Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.4. Site Preparation (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	1.26	1.26	—	0.65	0.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.5. Grading (2023) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.6. Grading (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.7. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790

Dust From Material Movement	—	—	—	—	—	—	1.10	1.10	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Hauling	0.00	0.00	0.00	0.00	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. Grading (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Mitigated

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

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

Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.18. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.19. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.20. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architect Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architect ural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architect ural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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

4.1. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	22.0	20.6	12.5	261	0.61	0.30	60.7	61.0	0.28	15.3	15.6	—	61,455	61,455	1.63	1.42	235	62,153
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	22.0	20.6	12.5	261	0.61	0.30	60.7	61.0	0.28	15.3	15.6	—	61,455	61,455	1.63	1.42	235	62,153
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	20.6	19.1	15.9	210	0.55	0.30	60.7	61.0	0.28	15.3	15.6	—	55,349	55,349	1.96	1.67	6.10	55,902
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	20.6	19.1	15.9	210	0.55	0.30	60.7	61.0	0.28	15.3	15.6	—	55,349	55,349	1.96	1.67	6.10	55,902
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.74	3.47	2.60	39.1	0.10	0.06	11.0	11.1	0.05	2.78	2.83	—	9,402	9,402	0.30	0.26	16.8	9,503
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	3.74	3.47	2.60	39.1	0.10	0.06	11.0	11.1	0.05	2.78	2.83	—	9,402	9,402	0.30	0.26	16.8	9,503

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	22.0	20.6	12.5	261	0.61	0.30	60.7	61.0	0.28	15.3	15.6	—	61,455	61,455	1.63	1.42	235	62,153
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	22.0	20.6	12.5	261	0.61	0.30	60.7	61.0	0.28	15.3	15.6	—	61,455	61,455	1.63	1.42	235	62,153

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	20.6	19.1	15.9	210	0.55	0.30	60.7	61.0	0.28	15.3	15.6	—	55,349	55,349	1.96	1.67	6.10	55,902
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	20.6	19.1	15.9	210	0.55	0.30	60.7	61.0	0.28	15.3	15.6	—	55,349	55,349	1.96	1.67	6.10	55,902
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.74	3.47	2.60	39.1	0.10	0.06	11.0	11.1	0.05	2.78	2.83	—	9,402	9,402	0.30	0.26	16.8	9,503
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	3.74	3.47	2.60	39.1	0.10	0.06	11.0	11.1	0.05	2.78	2.83	—	9,402	9,402	0.30	0.26	16.8	9,503

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	271	271	0.00	0.00	—	271
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	45.9	45.9	0.00	0.00	—	45.9
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	317	317	0.00	0.00	—	317

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	135	135	0.00	0.00	—	135
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	16.0	16.0	0.00	0.00	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	151	151	0.00	0.00	—	151

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	153	153	0.01	< 0.005	—	154
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	841	841	0.07	< 0.005	—	843
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	153	153	0.01	< 0.005	—	154
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	841	841	0.07	< 0.005	—	843
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.4	25.4	< 0.005	< 0.005	—	25.5
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	—	0.00
Total	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	139	139	0.01	< 0.005	—	140

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	683	683	0.06	< 0.005	—	685
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	152	152	0.01	< 0.005	—	152
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	835	835	0.07	< 0.005	—	837
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	683	683	0.06	< 0.005	—	685
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	152	152	0.01	< 0.005	—	152
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	835	835	0.07	< 0.005	—	837
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	113	113	0.01	< 0.005	—	113
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.1	25.1	< 0.005	< 0.005	—	25.2
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	—	0.00
Total	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	138	138	0.01	< 0.005	—	139

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.92	4.67	0.51	51.8	< 0.005	0.03	—	0.03	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	4.92	24.6	0.51	51.8	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consum Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipme nt	0.44	0.42	0.05	4.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.44	4.06	0.05	4.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consum er Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipme nt	4.92	4.67	0.51	51.8	< 0.005	0.03	—	0.03	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	4.92	24.6	0.51	51.8	< 0.005	0.03	—	0.03	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.44	0.42	0.05	4.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.44	4.06	0.05	4.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332

Condo/Townhous	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	9.23	15.3	24.6	0.95	0.02	—	54.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.64	9.04	16.7	0.78	0.02	—	41.8
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2

City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

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

4.10.6. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Californi Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-11.3
Subtotal	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	-11.3

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-26.5
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	-26.5
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2023	9/14/2023	5.00	10.0	—
Site Preparation	Site Preparation	9/15/2023	12/7/2023	5.00	60.0	—
Grading	Grading	12/8/2023	3/1/2024	5.00	61.0	—
Building Construction	Building Construction	3/2/2024	6/18/2026	5.00	599	—
Paving	Paving	6/19/2026	11/5/2026	5.00	100	—
Architectural Coating	Architectural Coating	11/6/2026	3/25/2027	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
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	3,252,656	1,084,219	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	15,000	—
Site Preparation	0.00	0.00	90.0	0.00	—

Grading	0.00	0.00	183	0.00	—
Paving	0.00	0.00	0.00	0.00	7.88

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	7.88	0%
Condo/Townhouse	—	0%
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
2023	0.00	204	0.03	< 0.005
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

City Park	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
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	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

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0

Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
3252656.25	1,084,219	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	6,095,882	98.0	0.0000	0.0000	2,145,134
Condo/Townhouse	1,031,832	98.0	0.0000	0.0000	478,956
City Park	0.00	98.0	0.0000	0.0000	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)
Single Family Housing	3,027,997	98.0	0.0000	0.0000	2,132,290
Condo/Townhouse	360,087	98.0	0.0000	0.0000	473,076
City Park	0.00	98.0	0.0000	0.0000	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	29,081,749	143,669,355
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	24,073,872	71,792,639
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—

Condo/Townhouse	148	—
City Park	0.89	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—
Condo/Townhouse	148	—
City Park	0.89	—

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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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)
California Black Oak	915	2,536,544	3,480

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	17.9	annual days of extreme heat
Extreme Precipitation	2.90	annual days with precipitation above 20 mm
Sea Level Rise	0.00	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
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	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	53.4
AQ-DPM	42.7
Drinking Water	98.8
Lead Risk Housing	6.19
Pesticides	83.8
Toxic Releases	49.9
Traffic	36.1
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	57.2
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	58.7
Solid Waste	88.9
Sensitive Population	—
Asthma	89.7
Cardio-vascular	92.6

Low Birth Weights	27.6
Socioeconomic Factor Indicators	—
Education	41.6
Housing	7.69
Linguistic	13.3
Poverty	22.9
Unemployment	66.6

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	62.8127807
Employed	49.30065443
Median HI	67.57346336
Education	—
Bachelor's or higher	43.80854613
High school enrollment	100
Preschool enrollment	4.478378032
Transportation	—
Auto Access	67.17567047
Active commuting	20.54407802
Social	—
2-parent households	79.73822661
Voting	83.58783524
Neighborhood	—
Alcohol availability	91.6078532

Park access	39.76645708
Retail density	9.534197357
Supermarket access	30.77120493
Tree canopy	56.25561401
Housing	—
Homeownership	89.79853715
Housing habitability	88.99011934
Low-inc homeowner severe housing cost burden	87.11664314
Low-inc renter severe housing cost burden	80.39266008
Uncrowded housing	80.21301168
Health Outcomes	—
Insured adults	73.18105993
Arthritis	11.5
Asthma ER Admissions	7.7
High Blood Pressure	9.1
Cancer (excluding skin)	12.2
Asthma	51.9
Coronary Heart Disease	19.3
Chronic Obstructive Pulmonary Disease	35.3
Diagnosed Diabetes	55.5
Life Expectancy at Birth	42.2
Cognitively Disabled	60.3
Physically Disabled	27.7
Heart Attack ER Admissions	16.8
Mental Health Not Good	66.0
Chronic Kidney Disease	35.4
Obesity	44.4

Pedestrian Injuries	70.8
Physical Health Not Good	60.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	36.9
Current Smoker	60.5
No Leisure Time for Physical Activity	58.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	58.1
Elderly	12.9
English Speaking	65.9
Foreign-born	19.5
Outdoor Workers	75.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	54.3
Traffic Density	60.0
Traffic Access	0.0
Other Indices	—
Hardship	40.3
Other Decision Support	—
2016 Voting	83.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	65.0

Healthy Places Index Score for Project Location (b)	57.0
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 Use - Total development lot acreage = 175.67 acres.
Construction: Construction Phases	Buildout assumed to occur by year 2028.
Operations: Vehicle Data	Trip rates as provided by Traffic Impact Analysis (Fehr & Peers). 8,090 daily trips and 86,683 daily VMT. Equivalent to 31,639,113 annual VMT.
Operations: Fleet Mix	Revised Fleet mix to reflect that only home-based trips would occur (therefore, only LDA, LDT1, and LDT2 trips are relevant for this project during project operation). Maintained relative balance between LDA, LDT1, and LDT2 (per the CalEEMod defaults), but adjusted to reflect no other fleet vehicles beyond these three classes.
Operations: Hearths	Assumes no hearths.
Characteristics: Utility Information	Adjusted CO2e intensity factor to 98 lbs/MWh CO2e, based on the most recent (Year 2021) PG&E Power Content Label available (note: merged CO2, CH4, and N2O GHG intensity factors into the CO2 intensity factor, since the Power Content Label data is provided in terms of CO2e): https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label/a

Operations: Consumer Products	Revised General Category consumer products emissions factor to reflect CARB adjustments applied to their Consumer and Commercial Product Survey Emission data, made after the 2008 consumer products emissions factor. Adjustment made to reflect average adjustment factor. See for further detail: https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-products-emissions-inv
Operations: Vehicle EF	Adjusted Operational Vehicle GHG (i.e. CO_2, CH_4, and N_2O) emission factors for relevant vehicle types to reflect rescission of the SAFE Rule repeal.
Operations: Energy Use	The applicant stated that the only features of the Project that would utilize natural gas are: 1) cook stovetops, and 2) BBQs. Therefore, natural gas consumption calculated based on specification sheets provided by applicant and publicly available information.

North Manteca Annexation #1 (2028) - Unmitigated Scenario Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	North Manteca Annexation #1 (2028) - Unmitigated Scenario
Construction Start Date	9/1/2023
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.00
Location	37.837819220066564, -121.23218578140852
County	San Joaquin
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2160
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.18

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

Single Family Housing	715	Dwelling Unit	153	1,394,250	8,374,693	0.00	2,309	—
Condo/Townhouse	200	Dwelling Unit	12.5	212,000	0.00	0.00	646	—
City Park	10.4	Acre	10.4	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads
Transportation	T-31-B*	Improve Destination Accessibility in Underserved Areas
Transportation	T-32*	Orient Project Toward Transit, Bicycle, or Pedestrian Facility
Energy	E-2	Require Energy Efficient Appliances
Energy	E-7*	Require Higher Efficacy Public Street and Area Lighting
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-12-B	Install Electric Space Heater in Place of Natural Gas Heaters in Residences
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes
Natural Lands	N-2	Expand Urban Tree Planting

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	4.04	39.8	37.2	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	9,009	9,009	0.33	0.59	22.8	9,215
Mit.	4.79	4.04	39.8	37.2	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	9,009	9,009	0.33	0.59	22.8	9,215
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	101	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	8,644	8,644	0.36	0.59	0.59	8,829
Mit.	4.79	101	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	8,644	8,644	0.36	0.59	0.59	8,829
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.60	16.6	13.9	23.3	0.03	0.49	3.75	4.15	0.46	1.85	2.22	—	6,148	6,148	0.24	0.41	6.60	6,280
Mit.	2.60	16.6	13.9	23.3	0.03	0.49	2.93	3.39	0.46	0.77	1.22	—	6,148	6,148	0.24	0.41	6.60	6,280
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.47	3.03	2.54	4.26	0.01	0.09	0.68	0.76	0.08	0.34	0.41	—	1,018	1,018	0.04	0.07	1.09	1,040
Mit.	0.47	3.03	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	1,018	1,018	0.04	0.07	1.09	1,040
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	9.37	10.8	1.33	3.69	5.03	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	3.75	4.15	0.37	1.85	2.22	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	3.56	4.06	0.46	1.03	1.49	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.68	0.76	0.07	0.34	0.41	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.65	0.74	0.08	0.19	0.27	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040
2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	4.12	5.21	1.33	1.46	2.80	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	1.51	1.92	0.37	0.73	1.10	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	2.89	3.39	0.46	0.77	1.22	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.28	0.35	0.07	0.13	0.20	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040

2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	24.0	42.3	16.6	276	0.61	0.80	60.7	61.5	0.79	15.3	16.1	492	68,027	68,519	51.4	1.42	175	70,403
Mit.	24.0	42.2	16.5	276	0.55	0.67	60.5	61.2	0.75	15.3	16.1	483	66,751	67,233	50.4	1.40	175	69,085
% Reduced	—	< 0.5%	1%	< 0.5%	11%	17%	< 0.5%	< 0.5%	5%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.2	36.6	18.7	180	0.56	0.78	60.7	61.5	0.76	15.3	16.1	492	62,172	62,665	51.7	1.64	15.7	64,461
Mit.	18.2	36.5	18.6	180	0.49	0.65	60.5	61.2	0.73	15.3	16.0	483	60,896	61,379	50.7	1.61	15.7	63,143
% Reduced	—	< 0.5%	1%	< 0.5%	12%	17%	< 0.5%	< 0.5%	5%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	20.4	38.8	17.7	209	0.57	0.79	60.3	61.1	0.77	15.3	16.0	492	62,343	62,835	51.6	1.53	82.0	64,663
Mit.	20.4	38.7	17.6	209	0.50	0.66	60.2	60.9	0.74	15.2	16.0	483	61,067	61,549	50.6	1.51	82.0	63,346
% Reduced	—	< 0.5%	1%	< 0.5%	12%	17%	< 0.5%	< 0.5%	5%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.73	7.07	3.24	38.2	0.10	0.14	11.0	11.2	0.14	2.78	2.93	81.5	10,322	10,403	8.54	0.25	13.6	10,706
Mit.	3.73	7.06	3.21	38.2	0.09	0.12	11.0	11.1	0.13	2.78	2.91	79.9	10,110	10,190	8.37	0.25	13.6	10,488

% Reduced	< 0.5%	< 0.5%	1%	< 0.5%	12%	17%	< 0.5%	< 0.5%	5%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	18.5	17.4	9.71	221	0.57	0.26	60.7	60.9	0.24	15.3	15.6	—	57,721	57,721	1.32	1.23	163	58,283
Area	4.78	24.5	0.49	52.0	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	10,068	10,068	0.72	0.02	—	10,091
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	24.0	42.3	16.6	276	0.61	0.80	60.7	61.5	0.79	15.3	16.1	492	68,027	68,519	51.4	1.42	175	70,403
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	17.4	16.3	12.3	177	0.51	0.26	60.7	60.9	0.24	15.3	15.6	—	52,005	52,005	1.60	1.45	4.23	52,481
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	10,068	10,068	0.72	0.02	—	10,091
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	18.2	36.6	18.7	180	0.56	0.78	60.7	61.5	0.76	15.3	16.1	492	62,172	62,665	51.7	1.64	15.7	64,461
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	17.3	16.2	11.1	181	0.53	0.26	60.3	60.6	0.24	15.3	15.5	—	52,107	52,107	1.46	1.34	70.5	52,615

Area	2.36	22.2	0.24	25.6	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	10,068	10,068	0.72	0.02	—	10,091
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	20.4	38.8	17.7	209	0.57	0.79	60.3	61.1	0.77	15.3	16.0	492	62,343	62,835	51.6	1.53	82.0	64,663
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.16	2.96	2.02	33.0	0.10	0.05	11.0	11.1	0.04	2.78	2.83	—	8,627	8,627	0.24	0.22	11.7	8,711
Area	0.43	4.05	0.04	4.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,667	1,667	0.12	< 0.005	—	1,671
Water	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Total	3.73	7.07	3.24	38.2	0.10	0.14	11.0	11.2	0.14	2.78	2.93	81.5	10,322	10,403	8.54	0.25	13.6	10,706

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	18.5	17.4	9.71	221	0.57	0.26	60.7	60.9	0.24	15.3	15.6	—	57,721	57,721	1.32	1.23	163	58,283
Area	4.78	24.5	0.49	52.0	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	9,058	9,058	0.72	0.02	—	9,080
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5

Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	24.0	42.2	16.5	276	0.55	0.67	60.5	61.2	0.75	15.3	16.1	483	66,751	67,233	50.4	1.40	175	69,085
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	17.4	16.3	12.3	177	0.51	0.26	60.7	60.9	0.24	15.3	15.6	—	52,005	52,005	1.60	1.45	4.23	52,481
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	9,058	9,058	0.72	0.02	—	9,080
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	18.2	36.5	18.6	180	0.49	0.65	60.5	61.2	0.73	15.3	16.0	483	60,896	61,379	50.7	1.61	15.7	63,143
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	17.3	16.2	11.1	181	0.53	0.26	60.3	60.6	0.24	15.3	15.5	—	52,107	52,107	1.46	1.34	70.5	52,615
Area	2.36	22.2	0.24	25.6	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	9,058	9,058	0.72	0.02	—	9,080
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	20.4	38.7	17.6	209	0.50	0.66	60.2	60.9	0.74	15.2	16.0	483	61,067	61,549	50.6	1.51	82.0	63,346
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.16	2.96	2.02	33.0	0.10	0.05	11.0	11.1	0.04	2.78	2.83	—	8,627	8,627	0.24	0.22	11.7	8,711
Area	0.43	4.05	0.04	4.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,500	1,500	0.12	< 0.005	—	1,503

Water	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Vegetation	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8
Total	3.73	7.06	3.21	38.2	0.09	0.12	11.0	11.1	0.13	2.78	2.91	79.9	10,110	10,190	8.37	0.25	13.6	10,488

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.2. Demolition (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.3. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	3.23	3.23	—	1.66	1.66	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—

Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.4. Site Preparation (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	1.26	1.26	—	0.65	0.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.5. Grading (2023) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.6. Grading (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.7. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790

Dust From Material Movement	—	—	—	—	—	—	1.10	1.10	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Hauling	0.00	0.00	0.00	0.00	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. Grading (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Mitigated

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

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

Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.18. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.19. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.20. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architect Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architect ural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architect ural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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

4.1. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	18.5	17.4	9.71	221	0.57	0.26	60.7	60.9	0.24	15.3	15.6	—	57,721	57,721	1.32	1.23	163	58,283
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	18.5	17.4	9.71	221	0.57	0.26	60.7	60.9	0.24	15.3	15.6	—	57,721	57,721	1.32	1.23	163	58,283
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	17.4	16.3	12.3	177	0.51	0.26	60.7	60.9	0.24	15.3	15.6	—	52,005	52,005	1.60	1.45	4.23	52,481
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	17.4	16.3	12.3	177	0.51	0.26	60.7	60.9	0.24	15.3	15.6	—	52,005	52,005	1.60	1.45	4.23	52,481
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.16	2.96	2.02	33.0	0.10	0.05	11.0	11.1	0.04	2.78	2.83	—	8,627	8,627	0.24	0.22	11.7	8,711
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	3.16	2.96	2.02	33.0	0.10	0.05	11.0	11.1	0.04	2.78	2.83	—	8,627	8,627	0.24	0.22	11.7	8,711

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	18.5	17.4	9.71	221	0.57	0.26	60.7	60.9	0.24	15.3	15.6	—	57,721	57,721	1.32	1.23	163	58,283
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	18.5	17.4	9.71	221	0.57	0.26	60.7	60.9	0.24	15.3	15.6	—	57,721	57,721	1.32	1.23	163	58,283

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	17.4	16.3	12.3	177	0.51	0.26	60.7	60.9	0.24	15.3	15.6	—	52,005	52,005	1.60	1.45	4.23	52,481
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	17.4	16.3	12.3	177	0.51	0.26	60.7	60.9	0.24	15.3	15.6	—	52,005	52,005	1.60	1.45	4.23	52,481
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.16	2.96	2.02	33.0	0.10	0.05	11.0	11.1	0.04	2.78	2.83	—	8,627	8,627	0.24	0.22	11.7	8,711
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	3.16	2.96	2.02	33.0	0.10	0.05	11.0	11.1	0.04	2.78	2.83	—	8,627	8,627	0.24	0.22	11.7	8,711

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	271	271	0.00	0.00	—	271
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	45.9	45.9	0.00	0.00	—	45.9
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	317	317	0.00	0.00	—	317

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	135	135	0.00	0.00	—	135
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	16.0	16.0	0.00	0.00	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	151	151	0.00	0.00	—	151

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,666	6,666	0.59	0.01	—	6,684
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,488	1,488	0.13	< 0.005	—	1,492
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,154	8,154	0.72	0.02	—	8,177
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,666	6,666	0.59	0.01	—	6,684
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,488	1,488	0.13	< 0.005	—	1,492
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,154	8,154	0.72	0.02	—	8,177
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.11	0.06	0.96	0.41	0.01	0.08	—	0.08	0.08	—	0.08	—	1,104	1,104	0.10	< 0.005	—	1,107
Condo/Townhouse	0.03	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	246	246	0.02	< 0.005	—	247
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	—	0.00
Total	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,350	1,350	0.12	< 0.005	—	1,354

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,662	6,662	0.59	0.01	—	6,680
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,486	1,486	0.13	< 0.005	—	1,491
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,148	8,148	0.72	0.02	—	8,171
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,662	6,662	0.59	0.01	—	6,680
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,486	1,486	0.13	< 0.005	—	1,491
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,148	8,148	0.72	0.02	—	8,171
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.11	0.06	0.96	0.41	0.01	0.08	—	0.08	0.08	—	0.08	—	1,103	1,103	0.10	< 0.005	—	1,106
Condo/Townhouse	0.03	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	246	246	0.02	< 0.005	—	247
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	—	0.00
Total	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,349	1,349	0.12	< 0.005	—	1,353

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.78	4.52	0.49	52.0	< 0.005	0.02	—	0.02	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	4.78	24.5	0.49	52.0	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consum Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.43	0.41	0.04	4.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.43	4.05	0.04	4.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.78	4.52	0.49	52.0	< 0.005	0.02	—	0.02	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	4.78	24.5	0.49	52.0	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.43	0.41	0.04	4.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.43	4.05	0.04	4.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332

Condo/Townhous	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	9.23	15.3	24.6	0.95	0.02	—	54.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.64	9.04	16.7	0.78	0.02	—	41.8
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2

City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

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

4.10.6. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Californi Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-11.3
Subtotal	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	-11.3

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-26.5
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	-26.5
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2023	9/14/2023	5.00	10.0	—
Site Preparation	Site Preparation	9/15/2023	12/7/2023	5.00	60.0	—
Grading	Grading	12/8/2023	3/1/2024	5.00	61.0	—
Building Construction	Building Construction	3/2/2024	6/18/2026	5.00	599	—
Paving	Paving	6/19/2026	11/5/2026	5.00	100	—
Architectural Coating	Architectural Coating	11/6/2026	3/25/2027	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
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	3,252,656	1,084,219	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	15,000	—
Site Preparation	0.00	0.00	90.0	0.00	—

Grading	0.00	0.00	183	0.00	—
Paving	0.00	0.00	0.00	0.00	7.88

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	7.88	0%
Condo/Townhouse	—	0%
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
2023	0.00	204	0.03	< 0.005
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

City Park	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
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	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

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0

Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
3252656.25	1,084,219	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	6,095,882	98.0	0.0000	0.0000	20,799,368
Condo/Townhouse	1,031,832	98.0	0.0000	0.0000	4,643,989
City Park	0.00	98.0	0.0000	0.0000	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)
Single Family Housing	3,027,997	98.0	0.0000	0.0000	20,786,524
Condo/Townhouse	360,087	98.0	0.0000	0.0000	4,638,109
City Park	0.00	98.0	0.0000	0.0000	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	29,081,749	143,669,355
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	24,073,872	71,792,639
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—

Condo/Townhouse	148	—
City Park	0.89	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—
Condo/Townhouse	148	—
City Park	0.89	—

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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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)
California Black Oak	915	2,536,544	3,480

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	17.9	annual days of extreme heat
Extreme Precipitation	2.90	annual days with precipitation above 20 mm
Sea Level Rise	0.00	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
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	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	53.4
AQ-DPM	42.7
Drinking Water	98.8
Lead Risk Housing	6.19
Pesticides	83.8
Toxic Releases	49.9
Traffic	36.1
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	57.2
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	58.7
Solid Waste	88.9
Sensitive Population	—
Asthma	89.7
Cardio-vascular	92.6

Low Birth Weights	27.6
Socioeconomic Factor Indicators	—
Education	41.6
Housing	7.69
Linguistic	13.3
Poverty	22.9
Unemployment	66.6

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	62.8127807
Employed	49.30065443
Median HI	67.57346336
Education	—
Bachelor's or higher	43.80854613
High school enrollment	100
Preschool enrollment	4.478378032
Transportation	—
Auto Access	67.17567047
Active commuting	20.54407802
Social	—
2-parent households	79.73822661
Voting	83.58783524
Neighborhood	—
Alcohol availability	91.6078532

Park access	39.76645708
Retail density	9.534197357
Supermarket access	30.77120493
Tree canopy	56.25561401
Housing	—
Homeownership	89.79853715
Housing habitability	88.99011934
Low-inc homeowner severe housing cost burden	87.11664314
Low-inc renter severe housing cost burden	80.39266008
Uncrowded housing	80.21301168
Health Outcomes	—
Insured adults	73.18105993
Arthritis	11.5
Asthma ER Admissions	7.7
High Blood Pressure	9.1
Cancer (excluding skin)	12.2
Asthma	51.9
Coronary Heart Disease	19.3
Chronic Obstructive Pulmonary Disease	35.3
Diagnosed Diabetes	55.5
Life Expectancy at Birth	42.2
Cognitively Disabled	60.3
Physically Disabled	27.7
Heart Attack ER Admissions	16.8
Mental Health Not Good	66.0
Chronic Kidney Disease	35.4
Obesity	44.4

Pedestrian Injuries	70.8
Physical Health Not Good	60.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	36.9
Current Smoker	60.5
No Leisure Time for Physical Activity	58.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	58.1
Elderly	12.9
English Speaking	65.9
Foreign-born	19.5
Outdoor Workers	75.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	54.3
Traffic Density	60.0
Traffic Access	0.0
Other Indices	—
Hardship	40.3
Other Decision Support	—
2016 Voting	83.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	65.0

Healthy Places Index Score for Project Location (b)	57.0
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 Use - Total development lot acreage = 175.67 acres.
Construction: Construction Phases	Buildout assumed to occur by year 2028.
Operations: Vehicle Data	Trip rates as provided by Traffic Impact Analysis (Fehr & Peers). 8,090 daily trips and 86,683 daily VMT. Equivalent to 31,639,113 annual VMT.
Operations: Fleet Mix	Revised Fleet mix to reflect that only home-based trips would occur (therefore, only LDA, LDT1, and LDT2 trips are relevant for this project during project operation). Maintained relative balance between LDA, LDT1, and LDT2 (per the CalEEMod defaults), but adjusted to reflect no other fleet vehicles beyond these three classes.
Operations: Hearths	Assumes no hearths.
Characteristics: Utility Information	Adjusted CO2e intensity factor to 98 lbs/MWh CO2e, based on the most recent (Year 2021) PG&E Power Content Label available (note: merged CO2, CH4, and N2O GHG intensity factors into the CO2 intensity factor, since the Power Content Label data is provided in terms of CO2e): https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label/a

Operations: Consumer Products	Revised General Category consumer products emissions factor to reflect CARB adjustments applied to their Consumer and Commercial Product Survey Emission data, made after the 2008 consumer products emissions factor. Adjustment made to reflect average adjustment factor. See for further detail: https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-products-emissions-inv
Operations: Vehicle EF	Adjusted Operational Vehicle GHG (i.e. CO2, CH4, and N2O) emission factors for relevant vehicle types to reflect rescission of the SAFE Rule repeal.

North Manteca Annexation #1 (2028) - Mitigated Scenario Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	North Manteca Annexation #1 (2028) - Mitigated Scenario
Construction Start Date	9/1/2023
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.00
Location	37.837819220066564, -121.23218578140852
County	San Joaquin
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2160
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.18

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

Single Family Housing	715	Dwelling Unit	153	1,394,250	8,374,693	0.00	2,309	—
Condo/Townhouse	200	Dwelling Unit	12.5	212,000	0.00	0.00	646	—
City Park	10.4	Acre	10.4	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads
Transportation	T-31-B*	Improve Destination Accessibility in Underserved Areas
Transportation	T-32*	Orient Project Toward Transit, Bicycle, or Pedestrian Facility
Energy	E-2	Require Energy Efficient Appliances
Energy	E-7*	Require Higher Efficacy Public Street and Area Lighting
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-12-B	Install Electric Space Heater in Place of Natural Gas Heaters in Residences
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes
Natural Lands	N-2	Expand Urban Tree Planting

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	4.04	39.8	37.2	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	9,009	9,009	0.33	0.59	22.8	9,215
Mit.	4.79	4.04	39.8	37.2	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	9,009	9,009	0.33	0.59	22.8	9,215
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	101	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	8,644	8,644	0.36	0.59	0.59	8,829
Mit.	4.79	101	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	8,644	8,644	0.36	0.59	0.59	8,829
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.60	16.6	13.9	23.3	0.03	0.49	3.75	4.15	0.46	1.85	2.22	—	6,148	6,148	0.24	0.41	6.60	6,280
Mit.	2.60	16.6	13.9	23.3	0.03	0.49	2.93	3.39	0.46	0.77	1.22	—	6,148	6,148	0.24	0.41	6.60	6,280
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.47	3.03	2.54	4.26	0.01	0.09	0.68	0.76	0.08	0.34	0.41	—	1,018	1,018	0.04	0.07	1.09	1,040
Mit.	0.47	3.03	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	1,018	1,018	0.04	0.07	1.09	1,040
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	9.37	10.8	1.33	3.69	5.03	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	3.75	4.15	0.37	1.85	2.22	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	3.56	4.06	0.46	1.03	1.49	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.68	0.76	0.07	0.34	0.41	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.65	0.74	0.08	0.19	0.27	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040
2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	4.12	5.21	1.33	1.46	2.80	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	1.51	1.92	0.37	0.73	1.10	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	2.89	3.39	0.46	0.77	1.22	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.28	0.35	0.07	0.13	0.20	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040

2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	23.4	41.9	10.9	274	0.58	0.34	60.7	61.0	0.32	15.3	15.7	492	60,714	61,206	50.8	1.41	175	63,069
Mit.	23.4	41.9	10.7	274	0.51	0.20	60.5	60.8	0.28	15.3	15.6	483	59,437	59,920	49.8	1.38	175	61,752
% Reduced	—	< 0.5%	1%	< 0.5%	11%	39%	< 0.5%	< 0.5%	11%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	17.5	36.2	13.0	178	0.52	0.32	60.7	61.0	0.30	15.3	15.6	492	54,859	55,351	51.0	1.62	15.7	57,127
Mit.	17.5	36.2	12.9	178	0.45	0.19	60.5	60.7	0.26	15.3	15.6	483	53,583	54,065	50.1	1.60	15.7	55,810
% Reduced	—	< 0.5%	1%	< 0.5%	13%	42%	< 0.5%	< 0.5%	12%	< 0.5%	< 0.5%	2%	2%	2%	2%	1%	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	19.8	38.4	12.0	207	0.53	0.33	60.3	60.7	0.31	15.3	15.6	492	55,030	55,522	50.9	1.52	82.0	57,330
Mit.	19.8	38.3	11.9	207	0.47	0.19	60.2	60.4	0.27	15.2	15.5	483	53,753	54,236	49.9	1.50	82.0	56,012
% Reduced	—	< 0.5%	1%	< 0.5%	12%	41%	< 0.5%	< 0.5%	12%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.60	7.01	2.19	37.7	0.10	0.06	11.0	11.1	0.06	2.78	2.84	81.5	9,111	9,192	8.43	0.25	13.6	9,492
Mit.	3.60	7.00	2.16	37.7	0.09	0.04	11.0	11.0	0.05	2.78	2.83	79.9	8,899	8,979	8.27	0.25	13.6	9,273

% Reduced	< 0.5%	< 0.5%	1%	< 0.5%	12%	41%	< 0.5%	< 0.5%	12%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	18.5	17.4	9.71	221	0.57	0.26	60.7	60.9	0.24	15.3	15.6	—	57,721	57,721	1.32	1.23	163	58,283
Area	4.78	24.5	0.49	52.0	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	2,755	2,755	0.07	< 0.005	—	2,757
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	23.4	41.9	10.9	274	0.58	0.34	60.7	61.0	0.32	15.3	15.7	492	60,714	61,206	50.8	1.41	175	63,069
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	17.4	16.3	12.3	177	0.51	0.26	60.7	60.9	0.24	15.3	15.6	—	52,005	52,005	1.60	1.45	4.23	52,481
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	2,755	2,755	0.07	< 0.005	—	2,757
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	17.5	36.2	13.0	178	0.52	0.32	60.7	61.0	0.30	15.3	15.6	492	54,859	55,351	51.0	1.62	15.7	57,127
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	17.3	16.2	11.1	181	0.53	0.26	60.3	60.6	0.24	15.3	15.5	—	52,107	52,107	1.46	1.34	70.5	52,615

Area	2.36	22.2	0.24	25.6	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	2,755	2,755	0.07	< 0.005	—	2,757
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	19.8	38.4	12.0	207	0.53	0.33	60.3	60.7	0.31	15.3	15.6	492	55,030	55,522	50.9	1.52	82.0	57,330
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.16	2.96	2.02	33.0	0.10	0.05	11.0	11.1	0.04	2.78	2.83	—	8,627	8,627	0.24	0.22	11.7	8,711
Area	0.43	4.05	0.04	4.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	456	456	0.01	< 0.005	—	456
Water	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Total	3.60	7.01	2.19	37.7	0.10	0.06	11.0	11.1	0.06	2.78	2.84	81.5	9,111	9,192	8.43	0.25	13.6	9,492

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	18.5	17.4	9.71	221	0.57	0.26	60.7	60.9	0.24	15.3	15.6	—	57,721	57,721	1.32	1.23	163	58,283
Area	4.78	24.5	0.49	52.0	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	1,745	1,745	0.07	< 0.005	—	1,747
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5

Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	23.4	41.9	10.7	274	0.51	0.20	60.5	60.8	0.28	15.3	15.6	483	59,437	59,920	49.8	1.38	175	61,752
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	17.4	16.3	12.3	177	0.51	0.26	60.7	60.9	0.24	15.3	15.6	—	52,005	52,005	1.60	1.45	4.23	52,481
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	1,745	1,745	0.07	< 0.005	—	1,747
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	17.5	36.2	12.9	178	0.45	0.19	60.5	60.7	0.26	15.3	15.6	483	53,583	54,065	50.1	1.60	15.7	55,810
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	17.3	16.2	11.1	181	0.53	0.26	60.3	60.6	0.24	15.3	15.5	—	52,107	52,107	1.46	1.34	70.5	52,615
Area	2.36	22.2	0.24	25.6	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	1,745	1,745	0.07	< 0.005	—	1,747
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	19.8	38.3	11.9	207	0.47	0.19	60.2	60.4	0.27	15.2	15.5	483	53,753	54,236	49.9	1.50	82.0	56,012
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.16	2.96	2.02	33.0	0.10	0.05	11.0	11.1	0.04	2.78	2.83	—	8,627	8,627	0.24	0.22	11.7	8,711
Area	0.43	4.05	0.04	4.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	289	289	0.01	< 0.005	—	289

Water	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Vegetation	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8
Total	3.60	7.00	2.16	37.7	0.09	0.04	11.0	11.0	0.05	2.78	2.83	79.9	8,899	8,979	8.27	0.25	13.6	9,273

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolitio n	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.2. Demolition (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.3. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	3.23	3.23	—	1.66	1.66	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—

Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.4. Site Preparation (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	1.26	1.26	—	0.65	0.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.5. Grading (2023) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.6. Grading (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.7. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790

Dust From Material Movement	—	—	—	—	—	—	1.10	1.10	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Hauling	0.00	0.00	0.00	0.00	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. Grading (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Mitigated

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

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

Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.18. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.19. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.20. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architect Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architect ural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architect ural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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

4.1. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	18.5	17.4	9.71	221	0.57	0.26	60.7	60.9	0.24	15.3	15.6	—	57,721	57,721	1.32	1.23	163	58,283
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	18.5	17.4	9.71	221	0.57	0.26	60.7	60.9	0.24	15.3	15.6	—	57,721	57,721	1.32	1.23	163	58,283
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	17.4	16.3	12.3	177	0.51	0.26	60.7	60.9	0.24	15.3	15.6	—	52,005	52,005	1.60	1.45	4.23	52,481
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	17.4	16.3	12.3	177	0.51	0.26	60.7	60.9	0.24	15.3	15.6	—	52,005	52,005	1.60	1.45	4.23	52,481
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.16	2.96	2.02	33.0	0.10	0.05	11.0	11.1	0.04	2.78	2.83	—	8,627	8,627	0.24	0.22	11.7	8,711
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	3.16	2.96	2.02	33.0	0.10	0.05	11.0	11.1	0.04	2.78	2.83	—	8,627	8,627	0.24	0.22	11.7	8,711

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	18.5	17.4	9.71	221	0.57	0.26	60.7	60.9	0.24	15.3	15.6	—	57,721	57,721	1.32	1.23	163	58,283
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	18.5	17.4	9.71	221	0.57	0.26	60.7	60.9	0.24	15.3	15.6	—	57,721	57,721	1.32	1.23	163	58,283

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	17.4	16.3	12.3	177	0.51	0.26	60.7	60.9	0.24	15.3	15.6	—	52,005	52,005	1.60	1.45	4.23	52,481
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	17.4	16.3	12.3	177	0.51	0.26	60.7	60.9	0.24	15.3	15.6	—	52,005	52,005	1.60	1.45	4.23	52,481
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.16	2.96	2.02	33.0	0.10	0.05	11.0	11.1	0.04	2.78	2.83	—	8,627	8,627	0.24	0.22	11.7	8,711
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	3.16	2.96	2.02	33.0	0.10	0.05	11.0	11.1	0.04	2.78	2.83	—	8,627	8,627	0.24	0.22	11.7	8,711

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	271	271	0.00	0.00	—	271
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	45.9	45.9	0.00	0.00	—	45.9
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	317	317	0.00	0.00	—	317

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	135	135	0.00	0.00	—	135
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	16.0	16.0	0.00	0.00	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	151	151	0.00	0.00	—	151

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	153	153	0.01	< 0.005	—	154
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	841	841	0.07	< 0.005	—	843
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	153	153	0.01	< 0.005	—	154
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	841	841	0.07	< 0.005	—	843
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.4	25.4	< 0.005	< 0.005	—	25.5
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	—	0.00
Total	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	139	139	0.01	< 0.005	—	140

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	683	683	0.06	< 0.005	—	685
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	152	152	0.01	< 0.005	—	152
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	835	835	0.07	< 0.005	—	837
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	683	683	0.06	< 0.005	—	685
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	152	152	0.01	< 0.005	—	152
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	835	835	0.07	< 0.005	—	837
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	113	113	0.01	< 0.005	—	113
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.1	25.1	< 0.005	< 0.005	—	25.2
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	—	0.00
Total	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	138	138	0.01	< 0.005	—	139

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.78	4.52	0.49	52.0	< 0.005	0.02	—	0.02	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	4.78	24.5	0.49	52.0	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consum Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.43	0.41	0.04	4.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.43	4.05	0.04	4.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.78	4.52	0.49	52.0	< 0.005	0.02	—	0.02	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	4.78	24.5	0.49	52.0	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.43	0.41	0.04	4.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.43	4.05	0.04	4.68	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332

Condo/Townhous	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	9.23	15.3	24.6	0.95	0.02	—	54.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.64	9.04	16.7	0.78	0.02	—	41.8
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2

City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

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

4.10.6. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Californi Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-11.3
Subtotal	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	-11.3

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-26.5
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	-26.5
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2023	9/14/2023	5.00	10.0	—
Site Preparation	Site Preparation	9/15/2023	12/7/2023	5.00	60.0	—
Grading	Grading	12/8/2023	3/1/2024	5.00	61.0	—
Building Construction	Building Construction	3/2/2024	6/18/2026	5.00	599	—
Paving	Paving	6/19/2026	11/5/2026	5.00	100	—
Architectural Coating	Architectural Coating	11/6/2026	3/25/2027	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
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	3,252,656	1,084,219	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	15,000	—
Site Preparation	0.00	0.00	90.0	0.00	—

Grading	0.00	0.00	183	0.00	—
Paving	0.00	0.00	0.00	0.00	7.88

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	7.88	0%
Condo/Townhouse	—	0%
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
2023	0.00	204	0.03	< 0.005
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

City Park	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
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	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

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0

Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
3252656.25	1,084,219	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	6,095,882	98.0	0.0000	0.0000	2,145,134
Condo/Townhouse	1,031,832	98.0	0.0000	0.0000	478,956
City Park	0.00	98.0	0.0000	0.0000	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)
Single Family Housing	3,027,997	98.0	0.0000	0.0000	2,132,290
Condo/Townhouse	360,087	98.0	0.0000	0.0000	473,076
City Park	0.00	98.0	0.0000	0.0000	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	29,081,749	143,669,355
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	24,073,872	71,792,639
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—

Condo/Townhouse	148	—
City Park	0.89	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—
Condo/Townhouse	148	—
City Park	0.89	—

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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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)
California Black Oak	915	2,536,544	3,480

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	17.9	annual days of extreme heat
Extreme Precipitation	2.90	annual days with precipitation above 20 mm
Sea Level Rise	0.00	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
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	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	53.4
AQ-DPM	42.7
Drinking Water	98.8
Lead Risk Housing	6.19
Pesticides	83.8
Toxic Releases	49.9
Traffic	36.1
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	57.2
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	58.7
Solid Waste	88.9
Sensitive Population	—
Asthma	89.7
Cardio-vascular	92.6

Low Birth Weights	27.6
Socioeconomic Factor Indicators	—
Education	41.6
Housing	7.69
Linguistic	13.3
Poverty	22.9
Unemployment	66.6

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	62.8127807
Employed	49.30065443
Median HI	67.57346336
Education	—
Bachelor's or higher	43.80854613
High school enrollment	100
Preschool enrollment	4.478378032
Transportation	—
Auto Access	67.17567047
Active commuting	20.54407802
Social	—
2-parent households	79.73822661
Voting	83.58783524
Neighborhood	—
Alcohol availability	91.6078532

Park access	39.76645708
Retail density	9.534197357
Supermarket access	30.77120493
Tree canopy	56.25561401
Housing	—
Homeownership	89.79853715
Housing habitability	88.99011934
Low-inc homeowner severe housing cost burden	87.11664314
Low-inc renter severe housing cost burden	80.39266008
Uncrowded housing	80.21301168
Health Outcomes	—
Insured adults	73.18105993
Arthritis	11.5
Asthma ER Admissions	7.7
High Blood Pressure	9.1
Cancer (excluding skin)	12.2
Asthma	51.9
Coronary Heart Disease	19.3
Chronic Obstructive Pulmonary Disease	35.3
Diagnosed Diabetes	55.5
Life Expectancy at Birth	42.2
Cognitively Disabled	60.3
Physically Disabled	27.7
Heart Attack ER Admissions	16.8
Mental Health Not Good	66.0
Chronic Kidney Disease	35.4
Obesity	44.4

Pedestrian Injuries	70.8
Physical Health Not Good	60.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	36.9
Current Smoker	60.5
No Leisure Time for Physical Activity	58.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	58.1
Elderly	12.9
English Speaking	65.9
Foreign-born	19.5
Outdoor Workers	75.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	54.3
Traffic Density	60.0
Traffic Access	0.0
Other Indices	—
Hardship	40.3
Other Decision Support	—
2016 Voting	83.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	65.0

Healthy Places Index Score for Project Location (b)	57.0
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 Use - Total development lot acreage = 175.67 acres.
Construction: Construction Phases	Buildout assumed to occur by year 2028.
Operations: Vehicle Data	Trip rates as provided by Traffic Impact Analysis (Fehr & Peers). 8,090 daily trips and 86,683 daily VMT. Equivalent to 31,639,113 annual VMT.
Operations: Fleet Mix	Revised Fleet mix to reflect that only home-based trips would occur (therefore, only LDA, LDT1, and LDT2 trips are relevant for this project during project operation). Maintained relative balance between LDA, LDT1, and LDT2 (per the CalEEMod defaults), but adjusted to reflect no other fleet vehicles beyond these three classes.
Operations: Hearths	Assumes no hearths.
Characteristics: Utility Information	Adjusted CO2e intensity factor to 98 lbs/MWh CO2e, based on the most recent (Year 2021) PG&E Power Content Label available (note: merged CO2, CH4, and N2O GHG intensity factors into the CO2 intensity factor, since the Power Content Label data is provided in terms of CO2e): https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label/a

Operations: Consumer Products	Revised General Category consumer products emissions factor to reflect CARB adjustments applied to their Consumer and Commercial Product Survey Emission data, made after the 2008 consumer products emissions factor. Adjustment made to reflect average adjustment factor. See for further detail: https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-products-emissions-inv
Operations: Vehicle EF	Adjusted Operational Vehicle GHG (i.e. CO_2, CH_4, and N_2O) emission factors for relevant vehicle types to reflect rescission of the SAFE Rule repeal.
Operations: Energy Use	The applicant stated that the only features of the Project that would utilize natural gas are: 1) cook stovetops, and 2) BBQs. Therefore, natural gas consumption calculated based on specification sheets provided by applicant and publicly available information.

North Manteca Annexation #1 (2030) - Unmitigated Scenario Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	North Manteca Annexation #1 (2030) - Unmitigated Scenario
Construction Start Date	9/1/2023
Operational Year	2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.00
Location	37.837819220066564, -121.23218578140852
County	San Joaquin
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2160
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.18

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

Single Family Housing	715	Dwelling Unit	153	1,394,250	8,374,693	0.00	2,309	—
Condo/Townhouse	200	Dwelling Unit	12.5	212,000	0.00	0.00	646	—
City Park	10.4	Acre	10.4	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads
Transportation	T-31-B*	Improve Destination Accessibility in Underserved Areas
Transportation	T-32*	Orient Project Toward Transit, Bicycle, or Pedestrian Facility
Energy	E-2	Require Energy Efficient Appliances
Energy	E-7*	Require Higher Efficacy Public Street and Area Lighting
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-12-B	Install Electric Space Heater in Place of Natural Gas Heaters in Residences
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes
Natural Lands	N-2	Expand Urban Tree Planting

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	4.04	39.8	37.2	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	9,009	9,009	0.33	0.59	22.8	9,215
Mit.	4.79	4.04	39.8	37.2	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	9,009	9,009	0.33	0.59	22.8	9,215
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	101	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	8,644	8,644	0.36	0.59	0.59	8,829
Mit.	4.79	101	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	8,644	8,644	0.36	0.59	0.59	8,829
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.60	16.6	13.9	23.3	0.03	0.49	3.75	4.15	0.46	1.85	2.22	—	6,148	6,148	0.24	0.41	6.60	6,280
Mit.	2.60	16.6	13.9	23.3	0.03	0.49	2.93	3.39	0.46	0.77	1.22	—	6,148	6,148	0.24	0.41	6.60	6,280
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.47	3.03	2.54	4.26	0.01	0.09	0.68	0.76	0.08	0.34	0.41	—	1,018	1,018	0.04	0.07	1.09	1,040
Mit.	0.47	3.03	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	1,018	1,018	0.04	0.07	1.09	1,040
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	9.37	10.8	1.33	3.69	5.03	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	3.75	4.15	0.37	1.85	2.22	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	3.56	4.06	0.46	1.03	1.49	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.68	0.76	0.07	0.34	0.41	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.65	0.74	0.08	0.19	0.27	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040
2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	4.12	5.21	1.33	1.46	2.80	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	1.51	1.92	0.37	0.73	1.10	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	2.89	3.39	0.46	0.77	1.22	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.28	0.35	0.07	0.13	0.20	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040

2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	22.0	40.4	15.5	258	0.59	0.78	60.7	61.5	0.75	15.3	16.1	492	65,941	66,433	51.3	1.34	135	68,249
Mit.	22.0	40.3	15.3	258	0.53	0.64	60.6	61.2	0.72	15.3	16.0	483	64,665	65,147	50.3	1.31	135	66,932
% Reduced	—	< 0.5%	1%	< 0.5%	11%	17%	< 0.5%	< 0.5%	5%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	16.4	34.9	17.3	165	0.54	0.75	60.7	61.4	0.73	15.3	16.1	492	60,302	60,794	51.5	1.54	14.7	62,556
Mit.	16.4	34.8	17.1	165	0.47	0.62	60.6	61.2	0.70	15.3	16.0	483	59,026	59,508	50.5	1.52	14.7	61,238
% Reduced	—	< 0.5%	1%	< 0.5%	12%	18%	< 0.5%	< 0.5%	5%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.6	37.1	16.4	194	0.55	0.76	60.3	61.1	0.74	15.3	16.0	492	61,668	62,160	51.4	1.45	65.0	63,941
Mit.	18.6	37.0	16.3	194	0.48	0.63	60.2	60.8	0.71	15.2	15.9	483	60,391	60,874	50.4	1.42	65.0	62,623
% Reduced	—	< 0.5%	1%	< 0.5%	12%	17%	< 0.5%	< 0.5%	5%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.39	6.77	2.99	35.4	0.10	0.14	11.0	11.1	0.14	2.78	2.92	81.5	10,210	10,291	8.51	0.24	10.8	10,586
Mit.	3.39	6.75	2.97	35.4	0.09	0.12	11.0	11.1	0.13	2.78	2.91	79.9	9,998	10,078	8.35	0.24	10.8	10,368

% Reduced	< 0.5%	< 0.5%	1%	< 0.5%	12%	17%	< 0.5%	< 0.5%	5%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.5	15.6	8.55	203	0.55	0.23	60.7	60.9	0.21	15.3	15.6	—	55,635	55,635	1.18	1.15	124	56,130
Area	4.74	24.4	0.48	52.1	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	10,068	10,068	0.72	0.02	—	10,091
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	22.0	40.4	15.5	258	0.59	0.78	60.7	61.5	0.75	15.3	16.1	492	65,941	66,433	51.3	1.34	135	68,249
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	15.6	14.6	10.8	162	0.50	0.23	60.7	60.9	0.21	15.3	15.6	—	50,135	50,135	1.42	1.35	3.21	50,576
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	10,068	10,068	0.72	0.02	—	10,091
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	16.4	34.9	17.3	165	0.54	0.75	60.7	61.4	0.73	15.3	16.1	492	60,302	60,794	51.5	1.54	14.7	62,556
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	15.5	14.6	9.74	166	0.51	0.23	60.3	60.6	0.21	15.3	15.5	—	51,431	51,431	1.30	1.26	53.5	51,892

Area	2.34	22.2	0.24	25.7	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	10,068	10,068	0.72	0.02	—	10,091
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	18.6	37.1	16.4	194	0.55	0.76	60.3	61.1	0.74	15.3	16.0	492	61,668	62,160	51.4	1.45	65.0	63,941
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.83	2.66	1.78	30.3	0.09	0.04	11.0	11.1	0.04	2.78	2.82	—	8,515	8,515	0.22	0.21	8.86	8,591
Area	0.43	4.04	0.04	4.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,667	1,667	0.12	< 0.005	—	1,671
Water	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Total	3.39	6.77	2.99	35.4	0.10	0.14	11.0	11.1	0.14	2.78	2.92	81.5	10,210	10,291	8.51	0.24	10.8	10,586

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.5	15.6	8.55	203	0.55	0.23	60.7	60.9	0.21	15.3	15.6	—	55,635	55,635	1.18	1.15	124	56,130
Area	4.74	24.4	0.48	52.1	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	9,058	9,058	0.72	0.02	—	9,080
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5

Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	22.0	40.3	15.3	258	0.53	0.64	60.6	61.2	0.72	15.3	16.0	483	64,665	65,147	50.3	1.31	135	66,932
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	15.6	14.6	10.8	162	0.50	0.23	60.7	60.9	0.21	15.3	15.6	—	50,135	50,135	1.42	1.35	3.21	50,576
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	9,058	9,058	0.72	0.02	—	9,080
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	16.4	34.8	17.1	165	0.47	0.62	60.6	61.2	0.70	15.3	16.0	483	59,026	59,508	50.5	1.52	14.7	61,238
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	15.5	14.6	9.74	166	0.51	0.23	60.3	60.6	0.21	15.3	15.5	—	51,431	51,431	1.30	1.26	53.5	51,892
Area	2.34	22.2	0.24	25.7	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	9,058	9,058	0.72	0.02	—	9,080
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	18.6	37.0	16.3	194	0.48	0.63	60.2	60.8	0.71	15.2	15.9	483	60,391	60,874	50.4	1.42	65.0	62,623
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.83	2.66	1.78	30.3	0.09	0.04	11.0	11.1	0.04	2.78	2.82	—	8,515	8,515	0.22	0.21	8.86	8,591
Area	0.43	4.04	0.04	4.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,500	1,500	0.12	< 0.005	—	1,503

Water	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Vegetation	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8
Total	3.39	6.75	2.97	35.4	0.09	0.12	11.0	11.1	0.13	2.78	2.91	79.9	9,998	10,078	8.35	0.24	10.8	10,368

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.2. Demolition (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.3. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	3.23	3.23	—	1.66	1.66	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—

Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.4. Site Preparation (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	1.26	1.26	—	0.65	0.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.5. Grading (2023) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.6. Grading (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.7. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790

Dust From Material Movement	—	—	—	—	—	—	1.10	1.10	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Hauling	0.00	0.00	0.00	0.00	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. Grading (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Mitigated

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

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

Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.18. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.19. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.20. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architect Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architect ural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architect ural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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

4.1. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	16.5	15.6	8.55	203	0.55	0.23	60.7	60.9	0.21	15.3	15.6	—	55,635	55,635	1.18	1.15	124	56,130
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	16.5	15.6	8.55	203	0.55	0.23	60.7	60.9	0.21	15.3	15.6	—	55,635	55,635	1.18	1.15	124	56,130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	15.6	14.6	10.8	162	0.50	0.23	60.7	60.9	0.21	15.3	15.6	—	50,135	50,135	1.42	1.35	3.21	50,576
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	15.6	14.6	10.8	162	0.50	0.23	60.7	60.9	0.21	15.3	15.6	—	50,135	50,135	1.42	1.35	3.21	50,576
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	2.83	2.66	1.78	30.3	0.09	0.04	11.0	11.1	0.04	2.78	2.82	—	8,515	8,515	0.22	0.21	8.86	8,591
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	2.83	2.66	1.78	30.3	0.09	0.04	11.0	11.1	0.04	2.78	2.82	—	8,515	8,515	0.22	0.21	8.86	8,591

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	16.5	15.6	8.55	203	0.55	0.23	60.7	60.9	0.21	15.3	15.6	—	55,635	55,635	1.18	1.15	124	56,130
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	16.5	15.6	8.55	203	0.55	0.23	60.7	60.9	0.21	15.3	15.6	—	55,635	55,635	1.18	1.15	124	56,130

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	15.6	14.6	10.8	162	0.50	0.23	60.7	60.9	0.21	15.3	15.6	—	50,135	50,135	1.42	1.35	3.21	50,576
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	15.6	14.6	10.8	162	0.50	0.23	60.7	60.9	0.21	15.3	15.6	—	50,135	50,135	1.42	1.35	3.21	50,576
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	2.83	2.66	1.78	30.3	0.09	0.04	11.0	11.1	0.04	2.78	2.82	—	8,515	8,515	0.22	0.21	8.86	8,591
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	2.83	2.66	1.78	30.3	0.09	0.04	11.0	11.1	0.04	2.78	2.82	—	8,515	8,515	0.22	0.21	8.86	8,591

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637
Condo/T ownhous e	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	271	271	0.00	0.00	—	271
Condo/T ownhous e	—	—	—	—	—	—	—	—	—	—	—	—	45.9	45.9	0.00	0.00	—	45.9
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	317	317	0.00	0.00	—	317

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	135	135	0.00	0.00	—	135
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	16.0	16.0	0.00	0.00	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	151	151	0.00	0.00	—	151

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,666	6,666	0.59	0.01	—	6,684
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,488	1,488	0.13	< 0.005	—	1,492
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,154	8,154	0.72	0.02	—	8,177
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,666	6,666	0.59	0.01	—	6,684
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,488	1,488	0.13	< 0.005	—	1,492
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,154	8,154	0.72	0.02	—	8,177
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.11	0.06	0.96	0.41	0.01	0.08	—	0.08	0.08	—	0.08	—	1,104	1,104	0.10	< 0.005	—	1,107
Condo/Townhouse	0.03	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	246	246	0.02	< 0.005	—	247
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	—	0.00
Total	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,350	1,350	0.12	< 0.005	—	1,354

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,662	6,662	0.59	0.01	—	6,680
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,486	1,486	0.13	< 0.005	—	1,491
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,148	8,148	0.72	0.02	—	8,171
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.61	0.31	5.25	2.23	0.03	0.42	—	0.42	0.42	—	0.42	—	6,662	6,662	0.59	0.01	—	6,680
Condo/Townhouse	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,486	1,486	0.13	< 0.005	—	1,491
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	—	0.00
Total	0.75	0.38	6.42	2.73	0.04	0.52	—	0.52	0.52	—	0.52	—	8,148	8,148	0.72	0.02	—	8,171
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.11	0.06	0.96	0.41	0.01	0.08	—	0.08	0.08	—	0.08	—	1,103	1,103	0.10	< 0.005	—	1,106
Condo/Townhouse	0.03	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	246	246	0.02	< 0.005	—	247
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	—	0.00
Total	0.14	0.07	1.17	0.50	0.01	0.09	—	0.09	0.09	—	0.09	—	1,349	1,349	0.12	< 0.005	—	1,353

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.74	4.49	0.48	52.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	4.74	24.4	0.48	52.1	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consum Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipme nt	0.43	0.40	0.04	4.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.43	4.04	0.04	4.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consum er Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipme nt	4.74	4.49	0.48	52.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	4.74	24.4	0.48	52.1	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.43	0.40	0.04	4.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.43	4.04	0.04	4.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332

Condo/Townhous	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	9.23	15.3	24.6	0.95	0.02	—	54.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.64	9.04	16.7	0.78	0.02	—	41.8
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2

City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

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

4.10.6. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Californi Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-11.3
Subtotal	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	-11.3

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-26.5
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	-26.5
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2023	9/14/2023	5.00	10.0	—
Site Preparation	Site Preparation	9/15/2023	12/7/2023	5.00	60.0	—
Grading	Grading	12/8/2023	3/1/2024	5.00	61.0	—
Building Construction	Building Construction	3/2/2024	6/18/2026	5.00	599	—
Paving	Paving	6/19/2026	11/5/2026	5.00	100	—
Architectural Coating	Architectural Coating	11/6/2026	3/25/2027	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
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	3,252,656	1,084,219	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	15,000	—
Site Preparation	0.00	0.00	90.0	0.00	—

Grading	0.00	0.00	183	0.00	—
Paving	0.00	0.00	0.00	0.00	7.88

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	7.88	0%
Condo/Townhouse	—	0%
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
2023	0.00	204	0.03	< 0.005
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

City Park	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
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	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

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0

Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
3252656.25	1,084,219	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	6,095,882	98.0	0.0000	0.0000	20,799,368
Condo/Townhouse	1,031,832	98.0	0.0000	0.0000	4,643,989
City Park	0.00	98.0	0.0000	0.0000	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)
Single Family Housing	3,027,997	98.0	0.0000	0.0000	20,786,524
Condo/Townhouse	360,087	98.0	0.0000	0.0000	4,638,109
City Park	0.00	98.0	0.0000	0.0000	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	29,081,749	143,669,355
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	24,073,872	71,792,639
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—

Condo/Townhouse	148	—
City Park	0.89	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—
Condo/Townhouse	148	—
City Park	0.89	—

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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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)
California Black Oak	915	2,536,544	3,480

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	17.9	annual days of extreme heat
Extreme Precipitation	2.90	annual days with precipitation above 20 mm
Sea Level Rise	0.00	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
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	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	53.4
AQ-DPM	42.7
Drinking Water	98.8
Lead Risk Housing	6.19
Pesticides	83.8
Toxic Releases	49.9
Traffic	36.1
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	57.2
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	58.7
Solid Waste	88.9
Sensitive Population	—
Asthma	89.7
Cardio-vascular	92.6

Low Birth Weights	27.6
Socioeconomic Factor Indicators	—
Education	41.6
Housing	7.69
Linguistic	13.3
Poverty	22.9
Unemployment	66.6

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	62.8127807
Employed	49.30065443
Median HI	67.57346336
Education	—
Bachelor's or higher	43.80854613
High school enrollment	100
Preschool enrollment	4.478378032
Transportation	—
Auto Access	67.17567047
Active commuting	20.54407802
Social	—
2-parent households	79.73822661
Voting	83.58783524
Neighborhood	—
Alcohol availability	91.6078532

Park access	39.76645708
Retail density	9.534197357
Supermarket access	30.77120493
Tree canopy	56.25561401
Housing	—
Homeownership	89.79853715
Housing habitability	88.99011934
Low-inc homeowner severe housing cost burden	87.11664314
Low-inc renter severe housing cost burden	80.39266008
Uncrowded housing	80.21301168
Health Outcomes	—
Insured adults	73.18105993
Arthritis	11.5
Asthma ER Admissions	7.7
High Blood Pressure	9.1
Cancer (excluding skin)	12.2
Asthma	51.9
Coronary Heart Disease	19.3
Chronic Obstructive Pulmonary Disease	35.3
Diagnosed Diabetes	55.5
Life Expectancy at Birth	42.2
Cognitively Disabled	60.3
Physically Disabled	27.7
Heart Attack ER Admissions	16.8
Mental Health Not Good	66.0
Chronic Kidney Disease	35.4
Obesity	44.4

Pedestrian Injuries	70.8
Physical Health Not Good	60.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	36.9
Current Smoker	60.5
No Leisure Time for Physical Activity	58.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	58.1
Elderly	12.9
English Speaking	65.9
Foreign-born	19.5
Outdoor Workers	75.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	54.3
Traffic Density	60.0
Traffic Access	0.0
Other Indices	—
Hardship	40.3
Other Decision Support	—
2016 Voting	83.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	65.0

Healthy Places Index Score for Project Location (b)	57.0
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 Use - Total development lot acreage = 175.67 acres.
Construction: Construction Phases	Buildout assumed to occur by year 2028.
Operations: Vehicle Data	Trip rates as provided by Traffic Impact Analysis (Fehr & Peers). 8,090 daily trips and 86,683 daily VMT. Equivalent to 31,639,113 annual VMT.
Operations: Fleet Mix	Revised Fleet mix to reflect that only home-based trips would occur (therefore, only LDA, LDT1, and LDT2 trips are relevant for this project during project operation). Maintained relative balance between LDA, LDT1, and LDT2 (per the CalEEMod defaults), but adjusted to reflect no other fleet vehicles beyond these three classes.
Operations: Hearths	Assumes no hearths.
Characteristics: Utility Information	Adjusted CO2e intensity factor to 98 lbs/MWh CO2e, based on the most recent (Year 2021) PG&E Power Content Label available (note: merged CO2, CH4, and N2O GHG intensity factors into the CO2 intensity factor, since the Power Content Label data is provided in terms of CO2e): https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label/a

Operations: Consumer Products	Revised General Category consumer products emissions factor to reflect CARB adjustments applied to their Consumer and Commercial Product Survey Emission data, made after the 2008 consumer products emissions factor. Adjustment made to reflect average adjustment factor. See for further detail: https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-products-emissions-inv
Operations: Vehicle EF	Adjusted Operational Vehicle GHG (i.e. CO2, CH4, and N2O) emission factors for relevant vehicle types to reflect rescission of the SAFE Rule repeal.

North Manteca Annexation #1 (2030) - Mitigated Scenario Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	North Manteca Annexation #1 (2030) - Mitigated Scenario
Construction Start Date	9/1/2023
Operational Year	2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	9.00
Location	37.837819220066564, -121.23218578140852
County	San Joaquin
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2160
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.18

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

Single Family Housing	715	Dwelling Unit	153	1,394,250	8,374,693	0.00	2,309	—
Condo/Townhouse	200	Dwelling Unit	12.5	212,000	0.00	0.00	646	—
City Park	10.4	Acre	10.4	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads
Transportation	T-31-B*	Improve Destination Accessibility in Underserved Areas
Transportation	T-32*	Orient Project Toward Transit, Bicycle, or Pedestrian Facility
Energy	E-2	Require Energy Efficient Appliances
Energy	E-7*	Require Higher Efficacy Public Street and Area Lighting
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-12-B	Install Electric Space Heater in Place of Natural Gas Heaters in Residences
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes
Natural Lands	N-2	Expand Urban Tree Planting

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	4.04	39.8	37.2	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	9,009	9,009	0.33	0.59	22.8	9,215
Mit.	4.79	4.04	39.8	37.2	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	9,009	9,009	0.33	0.59	22.8	9,215
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	101	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	8,644	8,644	0.36	0.59	0.59	8,829
Mit.	4.79	101	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	8,644	8,644	0.36	0.59	0.59	8,829
% Reduced	—	—	—	—	—	—	61%	55%	—	61%	52%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.60	16.6	13.9	23.3	0.03	0.49	3.75	4.15	0.46	1.85	2.22	—	6,148	6,148	0.24	0.41	6.60	6,280
Mit.	2.60	16.6	13.9	23.3	0.03	0.49	2.93	3.39	0.46	0.77	1.22	—	6,148	6,148	0.24	0.41	6.60	6,280
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.47	3.03	2.54	4.26	0.01	0.09	0.68	0.76	0.08	0.34	0.41	—	1,018	1,018	0.04	0.07	1.09	1,040
Mit.	0.47	3.03	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	1,018	1,018	0.04	0.07	1.09	1,040
% Reduced	—	—	—	—	—	—	22%	18%	—	59%	45%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	19.8	21.6	1.66	10.1	11.8	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	19.8	21.6	1.66	10.1	11.8	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	9.37	10.8	1.33	3.69	5.03	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	3.75	4.15	0.37	1.85	2.22	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	3.56	4.06	0.46	1.03	1.49	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.68	0.76	0.07	0.34	0.41	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.65	0.74	0.08	0.19	0.27	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040
2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.04	39.8	36.6	0.05	1.81	7.81	9.62	1.66	3.97	5.64	—	5,465	5,465	0.22	0.23	3.59	5,486
2024	3.63	3.20	16.1	37.2	0.04	0.54	4.12	4.66	0.50	1.00	1.49	—	9,009	9,009	0.33	0.59	22.8	9,215
2025	3.31	2.90	15.0	35.1	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,880	8,880	0.33	0.57	21.4	9,080
2026	3.13	2.73	14.2	33.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,752	8,752	0.22	0.56	19.2	8,944
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	36.3	0.06	1.81	7.81	9.62	1.66	3.97	5.64	—	6,773	6,773	0.28	0.06	0.02	6,798
2024	4.27	3.60	34.4	32.4	0.06	1.45	4.12	5.21	1.33	1.46	2.80	—	8,644	8,644	0.36	0.59	0.59	8,829
2025	3.18	2.75	15.6	30.9	0.04	0.47	4.12	4.59	0.44	1.00	1.43	—	8,525	8,525	0.25	0.57	0.56	8,701
2026	3.03	101	14.6	29.4	0.04	0.42	4.12	4.54	0.39	1.00	1.38	—	8,405	8,405	0.24	0.57	0.50	8,581
2027	0.42	101	1.06	3.95	< 0.005	0.02	0.67	0.69	0.02	0.16	0.18	—	780	780	0.02	0.03	0.06	790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.10	0.92	9.10	8.17	0.01	0.41	1.51	1.92	0.37	0.73	1.10	—	1,346	1,346	0.05	0.02	0.11	1,353
2024	2.60	2.19	13.9	23.3	0.03	0.49	2.89	3.39	0.46	0.77	1.22	—	6,018	6,018	0.24	0.36	5.91	6,137
2025	2.28	1.97	10.9	22.3	0.03	0.34	2.93	3.26	0.31	0.71	1.02	—	6,148	6,148	0.17	0.41	6.60	6,280
2026	1.31	12.2	6.85	13.2	0.02	0.23	1.46	1.69	0.21	0.35	0.56	—	3,343	3,343	0.10	0.20	2.91	3,407
2027	0.07	16.6	0.17	0.66	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	131	131	< 0.005	< 0.005	0.16	133
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.20	0.17	1.66	1.49	< 0.005	0.07	0.28	0.35	0.07	0.13	0.20	—	223	223	0.01	< 0.005	0.02	224
2024	0.47	0.40	2.54	4.26	0.01	0.09	0.53	0.62	0.08	0.14	0.22	—	996	996	0.04	0.06	0.98	1,016
2025	0.42	0.36	1.99	4.07	0.01	0.06	0.53	0.60	0.06	0.13	0.19	—	1,018	1,018	0.03	0.07	1.09	1,040

2026	0.24	2.22	1.25	2.41	< 0.005	0.04	0.27	0.31	0.04	0.06	0.10	—	554	554	0.02	0.03	0.48	564
2027	0.01	3.03	0.03	0.12	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	21.7	21.7	< 0.005	< 0.005	0.03	22.0

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	21.3	40.1	9.70	256	0.56	0.31	60.7	61.0	0.29	15.3	15.6	492	58,628	59,120	50.6	1.32	135	60,916
Mit.	21.3	40.0	9.56	256	0.49	0.18	60.6	60.7	0.25	15.3	15.6	483	57,351	57,834	49.6	1.30	135	59,598
% Reduced	—	< 0.5%	1%	< 0.5%	12%	43%	< 0.5%	< 0.5%	13%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.7	34.6	11.5	163	0.50	0.29	60.7	61.0	0.27	15.3	15.6	492	52,989	53,481	50.9	1.53	14.7	55,223
Mit.	15.7	34.5	11.4	163	0.43	0.15	60.6	60.7	0.23	15.3	15.5	483	51,713	52,195	49.9	1.50	14.7	53,905
% Reduced	—	< 0.5%	1%	< 0.5%	13%	46%	< 0.5%	< 0.5%	14%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	17.9	36.8	10.6	192	0.51	0.30	60.3	60.6	0.28	15.3	15.5	492	54,354	54,847	50.8	1.43	65.0	56,607
Mit.	17.9	36.7	10.5	192	0.45	0.17	60.2	60.4	0.24	15.2	15.5	483	53,078	53,560	49.8	1.41	65.0	55,289
% Reduced	—	< 0.5%	1%	< 0.5%	13%	44%	< 0.5%	< 0.5%	13%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.27	6.71	1.94	35.0	0.09	0.05	11.0	11.1	0.05	2.78	2.83	81.5	8,999	9,080	8.40	0.24	10.8	9,372
Mit.	3.27	6.69	1.92	35.0	0.08	0.03	11.0	11.0	0.04	2.78	2.82	79.9	8,788	8,868	8.24	0.23	10.8	9,154

% Reduced	< 0.5%	< 0.5%	1%	< 0.5%	13%	44%	< 0.5%	< 0.5%	13%	< 0.5%	< 0.5%	2%	2%	2%	2%	2%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.5	15.6	8.55	203	0.55	0.23	60.7	60.9	0.21	15.3	15.6	—	55,635	55,635	1.18	1.15	124	56,130
Area	4.74	24.4	0.48	52.1	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	2,755	2,755	0.07	< 0.005	—	2,757
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	21.3	40.1	9.70	256	0.56	0.31	60.7	61.0	0.29	15.3	15.6	492	58,628	59,120	50.6	1.32	135	60,916
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	15.6	14.6	10.8	162	0.50	0.23	60.7	60.9	0.21	15.3	15.6	—	50,135	50,135	1.42	1.35	3.21	50,576
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	2,755	2,755	0.07	< 0.005	—	2,757
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	15.7	34.6	11.5	163	0.50	0.29	60.7	61.0	0.27	15.3	15.6	492	52,989	53,481	50.9	1.53	14.7	55,223
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	15.5	14.6	9.74	166	0.51	0.23	60.3	60.6	0.21	15.3	15.5	—	51,431	51,431	1.30	1.26	53.5	51,892

Area	2.34	22.2	0.24	25.7	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	2,755	2,755	0.07	< 0.005	—	2,757
Water	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Total	17.9	36.8	10.6	192	0.51	0.30	60.3	60.6	0.28	15.3	15.5	492	54,354	54,847	50.8	1.43	65.0	56,607
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.83	2.66	1.78	30.3	0.09	0.04	11.0	11.1	0.04	2.78	2.82	—	8,515	8,515	0.22	0.21	8.86	8,591
Area	0.43	4.04	0.04	4.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	456	456	0.01	< 0.005	—	456
Water	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Total	3.27	6.71	1.94	35.0	0.09	0.05	11.0	11.1	0.05	2.78	2.83	81.5	8,999	9,080	8.40	0.24	10.8	9,372

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.5	15.6	8.55	203	0.55	0.23	60.7	60.9	0.21	15.3	15.6	—	55,635	55,635	1.18	1.15	124	56,130
Area	4.74	24.4	0.48	52.1	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	1,745	1,745	0.07	< 0.005	—	1,747
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5

Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	21.3	40.0	9.56	256	0.49	0.18	60.6	60.7	0.25	15.3	15.6	483	57,351	57,834	49.6	1.30	135	59,598
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	15.6	14.6	10.8	162	0.50	0.23	60.7	60.9	0.21	15.3	15.6	—	50,135	50,135	1.42	1.35	3.21	50,576
Area	0.00	19.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	1,745	1,745	0.07	< 0.005	—	1,747
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	15.7	34.5	11.4	163	0.43	0.15	60.6	60.7	0.23	15.3	15.5	483	51,713	52,195	49.9	1.50	14.7	53,905
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	15.5	14.6	9.74	166	0.51	0.23	60.3	60.6	0.21	15.3	15.5	—	51,431	51,431	1.30	1.26	53.5	51,892
Area	2.34	22.2	0.24	25.7	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	68.4	68.4	< 0.005	< 0.005	—	68.7
Energy	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	1,745	1,745	0.07	< 0.005	—	1,747
Water	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Waste	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Vegetation	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Total	17.9	36.7	10.5	192	0.45	0.17	60.2	60.4	0.24	15.2	15.5	483	53,078	53,560	49.8	1.41	65.0	55,289
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.83	2.66	1.78	30.3	0.09	0.04	11.0	11.1	0.04	2.78	2.82	—	8,515	8,515	0.22	0.21	8.86	8,591
Area	0.43	4.04	0.04	4.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4
Energy	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	289	289	0.01	< 0.005	—	289

Water	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1
Waste	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Vegetation	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8
Total	3.27	6.69	1.92	35.0	0.08	0.03	11.0	11.0	0.04	2.78	2.82	79.9	8,788	8,868	8.24	0.23	10.8	9,154

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.2. Demolition (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.53	1.53	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.05	0.93	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.62	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.06	0.03	1.55	0.36	0.02	0.02	0.32	0.34	0.02	0.09	0.11	—	1,256	1,256	0.03	0.20	2.97	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	0.01	0.04	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.70	5.70	< 0.005	< 0.005	0.01	—

3.3. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	3.23	3.23	—	1.66	1.66	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—

Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.4. Site Preparation (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	6.53	5.83	0.01	0.30	—	0.30	0.27	—	0.27	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	1.26	1.26	—	0.65	0.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.19	1.06	< 0.005	0.05	—	0.05	0.05	—	0.05	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.09	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.73	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.08	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	153	153	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.7	25.7	< 0.005	< 0.005	0.05	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.26	4.26	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.5. Grading (2023) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.6. Grading (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.75	1.48	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	0.98	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	175	175	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.41	8.41	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.7. Grading (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790

Dust From Material Movement	—	—	—	—	—	—	1.10	1.10	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Hauling	0.00	0.00	0.00	0.00	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. Grading (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	4.09	3.60	0.01	0.17	—	0.17	0.16	—	0.16	—	788	788	0.03	0.01	—	790
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	130	130	0.01	< 0.005	—	131

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	0.04	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.46	3.46	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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 (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.86	0.72	6.70	7.83	0.01	0.30	—	0.30	0.27	—	0.27	—	1,431	1,431	0.06	0.01	—	1,436
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	237	237	0.01	< 0.005	—	238
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.02	1.88	1.26	22.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,795	3,795	0.18	0.14	15.2	—
Vendor	0.17	0.11	3.59	1.24	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,816	2,816	0.05	0.43	7.63	—
Hauling	0.00	0.00	0.00	0.00	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	1.78	1.63	1.64	18.1	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,427	3,427	0.21	0.14	0.39	—
Vendor	0.16	0.10	3.83	1.26	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,819	2,819	0.05	0.43	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.13	0.98	0.90	11.0	0.00	0.00	2.00	2.00	0.00	0.47	0.47	—	2,097	2,097	0.12	0.08	3.92	—
Vendor	0.10	0.06	2.24	0.74	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,682	1,682	0.03	0.26	1.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.21	0.18	0.16	2.01	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	347	347	0.02	0.01	0.65	—
Vendor	0.02	0.01	0.41	0.14	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	278	278	0.01	0.04	0.32	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.68	1.13	20.9	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,713	3,713	0.18	0.14	13.8	—
Vendor	0.15	0.09	3.44	1.17	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,769	2,769	0.05	0.41	7.60	—
Hauling	0.00	0.00	0.00	0.00	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	1.70	1.54	1.51	16.6	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,355	3,355	0.10	0.14	0.36	—
Vendor	0.14	0.08	3.67	1.20	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,772	2,772	0.05	0.41	0.20	—
Hauling	0.00	0.00	0.00	0.00	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	1.21	1.10	0.90	12.2	0.00	0.00	2.39	2.39	0.00	0.56	0.56	—	2,457	2,457	0.06	0.10	4.26	—
Vendor	0.10	0.06	2.56	0.85	0.01	0.03	0.53	0.56	0.03	0.15	0.17	—	1,979	1,979	0.04	0.29	2.35	—
Hauling	0.00	0.00	0.00	0.00	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	0.22	0.20	0.16	2.22	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	407	407	0.01	0.02	0.70	—
Vendor	0.02	0.01	0.47	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	328	328	0.01	0.05	0.39	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—

Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.26	4.29	0.01	0.13	—	0.13	0.12	—	0.12	—	793	793	0.03	0.01	—	796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.06	0.59	0.78	< 0.005	0.02	—	0.02	0.02	—	0.02	—	131	131	0.01	< 0.005	—	132
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.71	1.57	1.01	19.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,635	3,635	0.07	0.13	12.5	—
Vendor	0.14	0.09	3.29	1.11	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,719	2,719	0.05	0.41	6.68	—
Hauling	0.00	0.00	0.00	0.00	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	1.61	1.46	1.27	15.3	0.00	0.00	3.37	3.37	0.00	0.79	0.79	—	3,286	3,286	0.09	0.14	0.32	—
Vendor	0.14	0.08	3.51	1.15	0.02	0.04	0.75	0.79	0.04	0.21	0.25	—	2,722	2,722	0.05	0.41	0.17	—
Hauling	0.00	0.00	0.00	0.00	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	0.53	0.48	0.38	5.18	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,114	1,114	0.03	0.05	1.78	—
Vendor	0.05	0.03	1.14	0.37	0.01	0.01	0.25	0.26	0.01	0.07	0.08	—	900	900	0.02	0.14	0.96	—
Hauling	0.00	0.00	0.00	0.00	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	0.10	0.09	0.07	0.95	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	184	184	< 0.005	0.01	0.29	—
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.16	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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 (2026) - Mitigated

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

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

Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	2.72	< 0.005	0.09	—	0.09	0.08	—	0.08	—	414	414	0.02	< 0.005	—	415
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.50	< 0.005	0.02	—	0.02	0.01	—	0.01	—	68.5	68.5	< 0.005	< 0.005	—	68.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.72	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.47	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	123	123	< 0.005	0.01	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.18. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	—	2.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.25	3.06	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	657	657	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.04	0.03	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.8	73.8	< 0.005	< 0.005	0.12	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.19. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architect ural Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architect ural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architect ural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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	—

3.20. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architect Coatings	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Architect ural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Architect ural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.28	0.23	2.83	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	647	647	0.02	0.03	0.06	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.05	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.16	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	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

4.1. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	16.5	15.6	8.55	203	0.55	0.23	60.7	60.9	0.21	15.3	15.6	—	55,635	55,635	1.18	1.15	124	56,130
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	16.5	15.6	8.55	203	0.55	0.23	60.7	60.9	0.21	15.3	15.6	—	55,635	55,635	1.18	1.15	124	56,130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	15.6	14.6	10.8	162	0.50	0.23	60.7	60.9	0.21	15.3	15.6	—	50,135	50,135	1.42	1.35	3.21	50,576
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	15.6	14.6	10.8	162	0.50	0.23	60.7	60.9	0.21	15.3	15.6	—	50,135	50,135	1.42	1.35	3.21	50,576
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	2.83	2.66	1.78	30.3	0.09	0.04	11.0	11.1	0.04	2.78	2.82	—	8,515	8,515	0.22	0.21	8.86	8,591
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	2.83	2.66	1.78	30.3	0.09	0.04	11.0	11.1	0.04	2.78	2.82	—	8,515	8,515	0.22	0.21	8.86	8,591

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	16.5	15.6	8.55	203	0.55	0.23	60.7	60.9	0.21	15.3	15.6	—	55,635	55,635	1.18	1.15	124	56,130
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	16.5	15.6	8.55	203	0.55	0.23	60.7	60.9	0.21	15.3	15.6	—	55,635	55,635	1.18	1.15	124	56,130

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	15.6	14.6	10.8	162	0.50	0.23	60.7	60.9	0.21	15.3	15.6	—	50,135	50,135	1.42	1.35	3.21	50,576
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	15.6	14.6	10.8	162	0.50	0.23	60.7	60.9	0.21	15.3	15.6	—	50,135	50,135	1.42	1.35	3.21	50,576
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	2.83	2.66	1.78	30.3	0.09	0.04	11.0	11.1	0.04	2.78	2.82	—	8,515	8,515	0.22	0.21	8.86	8,591
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Total	2.83	2.66	1.78	30.3	0.09	0.04	11.0	11.1	0.04	2.78	2.82	—	8,515	8,515	0.22	0.21	8.86	8,591

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,637	1,637	0.00	0.00	—	1,637
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.00	0.00	—	277
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.00	0.00	—	1,914
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	271	271	0.00	0.00	—	271
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	45.9	45.9	0.00	0.00	—	45.9
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	317	317	0.00	0.00	—	317

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	813	813	0.00	0.00	—	813
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.7	96.7	0.00	0.00	—	96.7
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	910	910	0.00	0.00	—	910
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	135	135	0.00	0.00	—	135
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	16.0	16.0	0.00	0.00	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	151	151	0.00	0.00	—	151

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	153	153	0.01	< 0.005	—	154
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	841	841	0.07	< 0.005	—	843
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	687	687	0.06	< 0.005	—	689
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	153	153	0.01	< 0.005	—	154
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	841	841	0.07	< 0.005	—	843
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	114	114	0.01	< 0.005	—	114
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.4	25.4	< 0.005	< 0.005	—	25.5
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	—	0.00
Total	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	139	139	0.01	< 0.005	—	140

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	683	683	0.06	< 0.005	—	685
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	152	152	0.01	< 0.005	—	152
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	835	835	0.07	< 0.005	—	837
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	683	683	0.06	< 0.005	—	685
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	152	152	0.01	< 0.005	—	152
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	—	0.00
Total	0.08	0.04	0.66	0.28	< 0.005	0.05	—	0.05	0.05	—	0.05	—	835	835	0.07	< 0.005	—	837
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	113	113	0.01	< 0.005	—	113
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.1	25.1	< 0.005	< 0.005	—	25.2
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	—	0.00
Total	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	138	138	0.01	< 0.005	—	139

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.74	4.49	0.48	52.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	4.74	24.4	0.48	52.1	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consum Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.43	0.40	0.04	4.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.43	4.04	0.04	4.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.74	4.49	0.48	52.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	139	139	0.01	< 0.005	—	139
Total	4.74	24.4	0.48	52.1	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	139	139	0.01	< 0.005	—	139
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	19.9	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	3.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.43	0.40	0.04	4.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Total	0.43	4.04	0.04	4.69	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.3	11.3	< 0.005	< 0.005	—	11.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332

Condo/Townhous	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	55.7	92.6	148	5.71	0.14	—	332
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	71.3	99.7	171	7.31	0.17	—	406
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	9.23	15.3	24.6	0.95	0.02	—	54.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	11.8	16.5	28.3	1.21	0.03	—	67.2

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

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	46.1	54.6	101	4.73	0.11	—	253
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.6	7.12	22.7	1.60	0.04	—	74.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	123	6.33	0.15	—	326
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.64	9.04	16.7	0.78	0.02	—	41.8
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.58	1.18	3.76	0.26	0.01	—	12.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	20.4	1.05	0.02	—	54.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	341	0.00	341	34.0	0.00	—	1,192
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	79.7	0.00	79.7	7.97	0.00	—	279
City Park	—	—	—	—	—	—	—	—	—	—	—	0.48	0.00	0.48	0.05	0.00	—	1.68
Total	—	—	—	—	—	—	—	—	—	—	—	421	0.00	421	42.1	0.00	—	1,472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	56.4	0.00	56.4	5.64	0.00	—	197
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	13.2	0.00	13.2	1.32	0.00	—	46.2

City Park	—	—	—	—	—	—	—	—	—	—	—	0.08	0.00	0.08	0.01	0.00	—	0.28
Total	—	—	—	—	—	—	—	—	—	—	—	69.7	0.00	69.7	6.96	0.00	—	244

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.99	9.99
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52	1.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

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

4.10.6. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Californi Black Oak	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	—
undefine d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-68.5
Subtotal	—	-0.09	-0.01	—	-0.03	-0.10	-0.10	-0.21	-0.03	-0.03	-0.06	—	-68.5	-68.5	—	—	—	-68.5
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Californi a Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	—
undefine d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-160
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-160	-160	—	—	—	-160
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Californi a Black Oak	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
Subtotal	—	—	-0.12	—	-0.03	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.09	-0.13	—	-0.07	-0.13	-0.13	-0.26	-0.04	-0.04	-0.07	—	-228	-228	—	—	—	-228
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Californi a Black Oak	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	—
undefine d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-11.3
Subtotal	—	-0.02	> -0.005	—	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	-0.01	—	-11.3	-11.3	—	—	—	-11.3

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-26.5
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-26.5	-26.5	—	—	—	-26.5
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
California Black Oak	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	-0.02	—	-0.01	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.02	-0.02	—	-0.01	-0.02	-0.02	-0.05	-0.01	-0.01	-0.01	—	-37.8	-37.8	—	—	—	-37.8

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2023	9/14/2023	5.00	10.0	—
Site Preparation	Site Preparation	9/15/2023	12/7/2023	5.00	60.0	—
Grading	Grading	12/8/2023	3/1/2024	5.00	61.0	—
Building Construction	Building Construction	3/2/2024	6/18/2026	5.00	599	—
Paving	Paving	6/19/2026	11/5/2026	5.00	100	—
Architectural Coating	Architectural Coating	11/6/2026	3/25/2027	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
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
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	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	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	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	17.3	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	401	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	97.8	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	80.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	3,252,656	1,084,219	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	15,000	—
Site Preparation	0.00	0.00	90.0	0.00	—

Grading	0.00	0.00	183	0.00	—
Paving	0.00	0.00	0.00	0.00	7.88

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	7.88	0%
Condo/Townhouse	—	0%
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
2023	0.00	204	0.03	< 0.005
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

City Park	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
Single Family Housing	8,090	8,090	8,090	2,952,850	86,683	86,683	86,683	31,639,295
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	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

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	715
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200
Conventional Wood Stoves	0

Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
3252656.25	1,084,219	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	6,095,882	98.0	0.0000	0.0000	2,145,134
Condo/Townhouse	1,031,832	98.0	0.0000	0.0000	478,956
City Park	0.00	98.0	0.0000	0.0000	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)
Single Family Housing	3,027,997	98.0	0.0000	0.0000	2,132,290
Condo/Townhouse	360,087	98.0	0.0000	0.0000	473,076
City Park	0.00	98.0	0.0000	0.0000	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	29,081,749	143,669,355
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	24,073,872	71,792,639
Condo/Townhouse	8,134,755	0.00
City Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—

Condo/Townhouse	148	—
City Park	0.89	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	632	—
Condo/Townhouse	148	—
City Park	0.89	—

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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
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)
California Black Oak	915	2,536,544	3,480

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	17.9	annual days of extreme heat
Extreme Precipitation	2.90	annual days with precipitation above 20 mm
Sea Level Rise	0.00	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
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	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	53.4
AQ-DPM	42.7
Drinking Water	98.8
Lead Risk Housing	6.19
Pesticides	83.8
Toxic Releases	49.9
Traffic	36.1
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	57.2
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	58.7
Solid Waste	88.9
Sensitive Population	—
Asthma	89.7
Cardio-vascular	92.6

Low Birth Weights	27.6
Socioeconomic Factor Indicators	—
Education	41.6
Housing	7.69
Linguistic	13.3
Poverty	22.9
Unemployment	66.6

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	62.8127807
Employed	49.30065443
Median HI	67.57346336
Education	—
Bachelor's or higher	43.80854613
High school enrollment	100
Preschool enrollment	4.478378032
Transportation	—
Auto Access	67.17567047
Active commuting	20.54407802
Social	—
2-parent households	79.73822661
Voting	83.58783524
Neighborhood	—
Alcohol availability	91.6078532

Park access	39.76645708
Retail density	9.534197357
Supermarket access	30.77120493
Tree canopy	56.25561401
Housing	—
Homeownership	89.79853715
Housing habitability	88.99011934
Low-inc homeowner severe housing cost burden	87.11664314
Low-inc renter severe housing cost burden	80.39266008
Uncrowded housing	80.21301168
Health Outcomes	—
Insured adults	73.18105993
Arthritis	11.5
Asthma ER Admissions	7.7
High Blood Pressure	9.1
Cancer (excluding skin)	12.2
Asthma	51.9
Coronary Heart Disease	19.3
Chronic Obstructive Pulmonary Disease	35.3
Diagnosed Diabetes	55.5
Life Expectancy at Birth	42.2
Cognitively Disabled	60.3
Physically Disabled	27.7
Heart Attack ER Admissions	16.8
Mental Health Not Good	66.0
Chronic Kidney Disease	35.4
Obesity	44.4

Pedestrian Injuries	70.8
Physical Health Not Good	60.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	36.9
Current Smoker	60.5
No Leisure Time for Physical Activity	58.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	58.1
Elderly	12.9
English Speaking	65.9
Foreign-born	19.5
Outdoor Workers	75.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	54.3
Traffic Density	60.0
Traffic Access	0.0
Other Indices	—
Hardship	40.3
Other Decision Support	—
2016 Voting	83.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	65.0

Healthy Places Index Score for Project Location (b)	57.0
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 Use - Total development lot acreage = 175.67 acres.
Construction: Construction Phases	Buildout assumed to occur by year 2028.
Operations: Vehicle Data	Trip rates as provided by Traffic Impact Analysis (Fehr & Peers). 8,090 daily trips and 86,683 daily VMT. Equivalent to 31,639,113 annual VMT.
Operations: Fleet Mix	Revised Fleet mix to reflect that only home-based trips would occur (therefore, only LDA, LDT1, and LDT2 trips are relevant for this project during project operation). Maintained relative balance between LDA, LDT1, and LDT2 (per the CalEEMod defaults), but adjusted to reflect no other fleet vehicles beyond these three classes.
Operations: Hearths	Assumes no hearths.
Characteristics: Utility Information	Adjusted CO2e intensity factor to 98 lbs/MWh CO2e, based on the most recent (Year 2021) PG&E Power Content Label available (note: merged CO2, CH4, and N2O GHG intensity factors into the CO2 intensity factor, since the Power Content Label data is provided in terms of CO2e): https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label/a

Operations: Consumer Products	Revised General Category consumer products emissions factor to reflect CARB adjustments applied to their Consumer and Commercial Product Survey Emission data, made after the 2008 consumer products emissions factor. Adjustment made to reflect average adjustment factor. See for further detail: https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-products-emissions-inv
Operations: Vehicle EF	Adjusted Operational Vehicle GHG (i.e. CO_2, CH_4, and N_2O) emission factors for relevant vehicle types to reflect rescission of the SAFE Rule repeal.
Operations: Energy Use	The applicant stated that the only features of the Project that would utilize natural gas are: 1) cook stovetops, and 2) BBQs. Therefore, natural gas consumption calculated based on specification sheets provided by applicant and publicly available information.

Project Report - i-Tree Planting Calculator

Location: Manteca, California 95336
Electricity Emissions Factor: 216.05 pounds CO2 equivalent/MWh
Fuel Emissions Factor: 52.00 kilograms CO2 equivalent/MMBtu
Lifetime: 40 years
Project Lifetime Tree Mortality: 70%

All amounts in the tables are for the full lifetime of the project.

Location		CO_2 (Carbon Dioxide) Benefits			
Group Identifier	**Tree Group Characteristics**	**CO_2 (Carbon Dioxide) Avoided (pounds)**	**CO_2 Avoided ($)**	**CO_2 Sequestered (pounds)**	**CO_2 Sequestered ($)**
1	• (915.0) California black oak(Quercus kelloggii) at 4.0 inches DBH (Diameter at Breast Height). • Planted 20-39 feet and north (0°) of buildings that were built post-1980 with heating and cooling. • Trees are in excellent condition and planted in full sun.	1,000,271.2	$23,263.22	2,334,678.3	$54,297.42
Total		**1,000,271.2**	**$23,263.22**	**2,334,678.3**	**$54,297.42**

Location		Energy Benefits			
Group Identifier	**Tree Group Characteristics**	**Electricity Saved (kWh) (Kilowatt-Hours)**	**Electricity Saved ($)**	**Fuel Saved (MMBtu) (Millions of British Thermal Units)**	**Fuel Saved ($)**
1	• (915.0) California black oak(Quercus kelloggii) at 4.0 inches DBH (Diameter at Breast Height). • Planted 20-39 feet and north (0°) of buildings that were built post-1980 with heating and cooling. • Trees are in excellent condition and planted in full sun.	2,536,543.9	$519,230.54	3,479.6	$45,024.80
Total		**2,536,543.9**	**$519,230.54**	**3,479.6**	**$45,024.80**

Location		Ecological Benefits			
Group Identifier	Tree Group Characteristics	Tree Biomass (short ton)	Rainfall Interception (gallons)	Runoff Avoided (gallons)	Runoff Avoided ($)
1	• (915.0) California black oak(Quercus kelloggii) at 4.0 inches DBH (Diameter at Breast Height). • Planted 20-39 feet and north (0°) of buildings that were built post-1980 with heating and cooling. • Trees are in excellent condition and planted in full sun.	372.8	12,114,760.3	3,373,934.9	$30,149.49
Total		**372.8**	**12,114,760.3**	**3,373,934.9**	**$30,149.49**

Location		Air Benefits									
Group Identifier	Tree Group Characteristics	O_3 (Ozone) Removed (pounds)	NO_2 (Nitrogen Dioxide) Avoided (pounds)	NO_2 (Nitrogen Dioxide) Removed (pounds)	SO_2 (Sulfur Dioxide) Avoided (pounds)	SO_2 (Sulfur Dioxide) Removed (pounds)	VOC (Volatile Organic Compound) Avoided (pounds)	$PM_{2.5}$ (Particulate matter smaller than 2.5 micrometers in diameter) Avoided (pounds)	$PM_{2.5}$ (Particulate matter smaller than 2.5 micrometers in diameter) Removed (pounds)	Avoided Value (Values for avoided pollutants) ($)	Removal Value (Values for removed pollutants) ($)
1	• (915.0) California black oak(Quercus kelloggii) at 4.0 inches DBH (Diameter at Breast Height). • Planted 20-39 feet and north (0°) of buildings that were built post-1980 with heating and cooling. • Trees are in excellent condition and planted in full sun.	13,290.24	140.12	1,716.25	493.09	469.73	1,289.31	825.29	223.93	$3,914.68	$66,174.46
Total		**13,290.24**	**140.12**	**1,716.25**	**493.09**	**469.73**	**1,289.31**	**825.29**	**223.93**	**$3,914.68**	**$66,174.46**

Sequestration and biomass are gross values that exclude losses to mortality.

Application v2.6.0, powered by engine v0.13.0 (APIv2) and database v12.0.49.

www.fs.fed.us
www.davey.com
www.arborday.org
www.urban-forestry.com
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Version 2.6.0

Calculations to Estimate Natural Gas Usage of Annexation #1

Note: The applicant stated that the only features of the Project that would utilize natural gas are: 1) cook stovetops, and 2) BBQs

1. Gas Stovetops

Notes: According to the spec sheet for the Whirlpool 5.0 cu. ft. Gas Range (WFG550S0H) (provided by the applicant), the gas burner power is between 5000 and 15,000 BTU (depending on the burner). The average of these values would be 10,000 BTU.
In the average home, cooktops are used in the average home approximately 8 times per week: https://www.eia.gov/todayinenergy/detail.php?id=53439#:~:text=The%20majority%20of%20U.S.%20households,averaged%20three%20times%20a%20week.
Assuming a conservative time per cook of 30 minutes per cook, this would equate to approximately four hours per week of cooktop usage, or 0.5714285714 hours per day.

Table 1: Factors for Natural Gas Stovetops:

Metric	Value	Source:
Average hours of usage per day	0.571428571	United States Energy Information Administration, "Today in Energy", August 15 2022. See: https://www.eia.gov/todayinenergy/detail.php?id=53439#:~:text=The%20majority%20of%20U.S.%20households,averaged%20three%20times%20a%20week.
Estimated BTU specification	10,000	Average value for the model identified by the applicant in the Whirlpool 5.0 cu. ft. Gas Range (WFG550S0H) specification sheet.
Days per Year	365	
BTU per kBTU	1000	

Table 2: Estimated Natural Gas Emissions from Natural Gas Stovetops

Natural Gas Consumption Per Home	Unit	# of Homes	Natural Gas Consumption of All Project Homes	Units
2,086	kBTU/year	915	1,908,429	kBTU/year

2. Gas BBQs

Notes: According to Barbecues Galore, the average BBQ gas burner would be 10,000 BTU. See: https://www.bbqgalore.com/what-is-a-good-btu-for-gas-grills
According to Traeger, the most common weekly frequency of using BBQs is once per week: https://www.traeger.com/learn/grill-bbq-stats
Assuming a conservative average time per cook of 1.5 hours total, this would equate to approximately 1.5 hours per week, or

Table 3: Factors for Natural Gas BBQs:

Metric	Value	Source:
Average hours of usage per day	0.214285714	Traeger, "BBQ AND GRILL STATISTICS FOR 2022". See: https://www.traeger.com/learn/grill-bbq-stats
Estimated BTU specification	10,000	Barbecues Galore, "What Is A Good BTU When Choosing A Gas Grill?", 2023. See: https://www.bbqgalore.com/what-is-a-good-btu-for-gas-grills
Days per Year	365	
BTU per kBTU	1000	

Table 4: Estimated Natural Gas Emissions from Natural Gas BBQs

Natural Gas Consumption Per Home	Unit	# of Homes	Natural Gas Consumption of All Project Homes	Units
782	kBTU/year	915	715,661	kBTU/year

Sum:

2,624,089 kbtu/year

Calculations to Estimate the Demonstrate the Same Level of GHG Reductions As SMAQMD's GHG Thresholds for BMP 1

Note: SMAQMD GHG Threshold BMP 1 calls for either no natural gas, or (as an alternative), GHG reductions equivalent to offset the GHG emissions generated by natural gas.

Note: "Example alternative reductions are described in Section 5.3. As described in Section 6, at a minimum, for purposes of evaluating consistency with 2045 statewide carbon neutrality, a project would need to mitigate any natural gas emissions and require all prewiringnecessary so that the building is ready for a future retrofit to all-electric (e.g., suchthat electric space heating, water heating, drying, and cooking appliances could be installed)."

Therefore, what is needed to meet BMP 1, even if natural gas is allowed:

1 Require all prewiringnecessary so that the building is ready for a future retrofit to all-electric (e.g., suchthat electric space heating, water heating, drying, and cooking appliances could be installed)

2 Mitigation of any natural gas emissions (the equivalent of).

For informational purposes:

Table 1: Project Mitigated Operational Natural Gas Consumption and GHG Emissions

Year	Natural Gas Consumption	Unit	Natural Gas Emissions	Unit	Source
N/A	2,624,089.3	kBTU/year	140	MT CO2e/year	CalEEMod

For informational purposes:

Table 2: Project Mitigated Electricity Consumption and GHG Emissions

Year	Electricity Consumption	Unit	Electricity Emissions	Unit	Source
N/A	3,388,084	kWh/year	151	MT CO2e/year	CalEEMod

Derived Electricity GHG (i.e. CO2e) Emissions Factor:

Table 3: Electricity GHG Emissions Factor

Year	Electricity GHG Emissions Factor	Unit
N/A	**22,438**	**kWh/MT CO2e**

Electricity Needed to Fully Offset the Project's Operational Natural Gas Emissions:

Table 4: Electricity Needed to Fully Offset the Project's Operational Natural Gas GHG Emissions

Electricitity	Unit
3,133,278	**kWh/year**
3,133	**Mwh/year**

APPENDIX B.2

Energy Consumption Estimates

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: San Joaquin
Calendar Year: 2023, 2028
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Trips	Fuel Consumption	MPG	
San Joaquin	2023	All Other Buses	Aggregate	Aggregate	Diesel	63.39460475	3393.939224	564.2119822	0.391421545	8.670803	
San Joaquin	2023	LDA	Aggregate	Aggregate	Gasoline	246367.0682	9973102.473	1138235.391	348.1182228	28.64861	
San Joaquin	2023	LDA	Aggregate	Aggregate	Diesel	705.734891	23139.82538	3023.214022	0.54355344	42.57139	
San Joaquin	2023	LDT1	Aggregate	Aggregate	Gasoline	22016.87719	727225.7141	95173.38769	30.44231189	23.88865	
San Joaquin	2023	LDT1	Aggregate	Aggregate	Diesel	6.309776167	72.3140659	18.53577151	0.002953059	24.48785	
San Joaquin	2023	LDT2	Aggregate	Aggregate	Gasoline	99986.64004	4006976.314	463638.6569	173.0007864	23.16161	
San Joaquin	2023	LDT2	Aggregate	Aggregate	Diesel	269.0353638	11767.77307	1277.639106	0.365455308	32.20031	
San Joaquin	2023	LHD1	Aggregate	Aggregate	Gasoline	9831.305478	343356.5628	146471.803	37.0137846	9.276451	
San Joaquin	2023	LHD1	Aggregate	Aggregate	Diesel	8858.793592	311287.7804	111432.479	19.67413691	15.82218	
San Joaquin	2023	LHD2	Aggregate	Aggregate	Gasoline	1172.202392	40932.81227	17464.06906	4.90823024	8.339628	
San Joaquin	2023	LHD2	Aggregate	Aggregate	Diesel	3130.564849	115648.0857	39378.56755	8.863291415	13.04798	
San Joaquin	2023	MCY	Aggregate	Aggregate	Gasoline	12111.77426	65765.94827	24223.54852	1.643730409	40.01018	
San Joaquin	2023	MDV	Aggregate	Aggregate	Gasoline	94539.47242	3309649.733	427287.8869	177.5777061	18.63775	
San Joaquin	2023	MDV	Aggregate	Aggregate	Diesel	1386.649679	54072.49461	6485.715736	2.259668708	23.92939	
San Joaquin	2023	MH	Aggregate	Aggregate	Gasoline	1507.494843	13134.1796	150.8097841	2.977418428	4.411264	
San Joaquin	2023	MH	Aggregate	Aggregate	Diesel	642.7961913	5646.642802	64.27961913	0.600452961	9.403972	
San Joaquin	2023	Motor Coach	Aggregate	Aggregate	Diesel	17.50069597	2493.475909	402.1659934	0.455354651	5.475899	
San Joaquin	2023	OBUS	Aggregate	Aggregate	Gasoline	184.2186442	8143.534601	3685.846633	1.733278965	4.69834	
San Joaquin	2023	PTO	Aggregate	Aggregate	Diesel	0	19769.51749	0	4.013121008	4.92622	
San Joaquin	2023	SBUS	Aggregate	Aggregate	Gasoline	127.6658449	7011.404807	510.6633795	0.69096273	10.1473	
San Joaquin	2023	SBUS	Aggregate	Aggregate	Diesel	488.0661519	10999.75707	7067.197879	1.346323697	8.170217	
San Joaquin	2023	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	10.21525791	684.7798757	234.7466267	0.077405114	8.846701	
San Joaquin	2023	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	13.70885779	939.4917808	315.0295519	0.106056052	8.858446	
San Joaquin	2023	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	43.24157557	2453.394351	993.6914066	0.273109788	8.98318	
San Joaquin	2023	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	74.64743229	15398.81974	1715.397994	1.609252898	9.568925	MHD
San Joaquin	2023	T6 Instate Delivery Cl	Aggregate	Aggregate	Diesel	243.75384	8276.651944	3478.367297	1.005561316	8.230877	8.428594
San Joaquin	2023	T6 Instate Delivery Cl	Aggregate	Aggregate	Diesel	156.2432876	5383.859112	2229.591714	0.657027122	8.194272	
San Joaquin	2023	T6 Instate Delivery Cl	Aggregate	Aggregate	Diesel	682.6025228	23363.94113	9740.738001	2.839033489	8.229541	
San Joaquin	2023	T6 Instate Delivery Cl	Aggregate	Aggregate	Diesel	122.4768589	6703.210552	1747.744776	0.802391793	8.354037	
San Joaquin	2023	T6 Instate Other Class	Aggregate	Aggregate	Diesel	449.8451938	18399.42888	5200.21044	2.166542487	8.492531	
San Joaquin	2023	T6 Instate Other Class	Aggregate	Aggregate	Diesel	1174.570894	51943.62259	13578.03953	6.096265009	8.520565	
San Joaquin	2023	T6 Instate Other Class	Aggregate	Aggregate	Diesel	912.5417949	38573.64285	10548.98315	4.50612298	8.560273	
San Joaquin	2023	T6 Instate Other Class	Aggregate	Aggregate	Diesel	553.092214	25667.20124	6393.745994	2.950154535	8.70029	
San Joaquin	2023	T6 Instate Tractor Cla	Aggregate	Aggregate	Diesel	10.69132111	510.9258436	123.591672	0.060247854	8.480399	
San Joaquin	2023	T6 Instate Tractor Cla	Aggregate	Aggregate	Diesel	696.5366058	42802.49244	8051.963163	4.748833943	9.013264	
San Joaquin	2023	T6 OOS Class 4	Aggregate	Aggregate	Diesel	5.905142679	392.3346549	135.7001788	0.044317954	8.852725	
San Joaquin	2023	T6 OOS Class 5	Aggregate	Aggregate	Diesel	7.890998517	538.2125954	181.3351459	0.060737656	8.861267	
San Joaquin	2023	T6 OOS Class 6	Aggregate	Aggregate	Diesel	24.97157764	1406.36491	573.8468541	0.156409596	8.991551	
San Joaquin	2023	T6 OOS Class 7	Aggregate	Aggregate	Diesel	40.57354344	10226.0217	932.3800283	1.062980063	9.620144	
San Joaquin	2023	T6 Public Class 4	Aggregate	Aggregate	Diesel	32.09216486	1056.604858	164.6328057	0.140824099	7.503012	
San Joaquin	2023	T6 Public Class 5	Aggregate	Aggregate	Diesel	76.27568061	2776.64108	391.2942415	0.361173048	7.687841	
San Joaquin	2023	T6 Public Class 6	Aggregate	Aggregate	Diesel	126.4582156	4446.297004	648.7306462	0.576020372	7.718993	
San Joaquin	2023	T6 Public Class 7	Aggregate	Aggregate	Diesel	152.7305258	6768.069365	783.5075973	0.883776286	7.658125	
San Joaquin	2023	T6 Utility Class 5	Aggregate	Aggregate	Diesel	33.47606031	1364.933068	428.493572	0.154770907	8.819055	
San Joaquin	2023	T6 Utility Class 6	Aggregate	Aggregate	Diesel	6.356456131	257.430851	81.36263848	0.029104667	8.845002	
San Joaquin	2023	T6 Utility Class 7	Aggregate	Aggregate	Diesel	7.230830053	358.5000918	92.55462468	0.040337535	8.887506	
San Joaquin	2023	T6TS	Aggregate	Aggregate	Gasoline	560.525111	27400.6685	11214.98642	5.873758607	4.664929	
San Joaquin	2023	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	1500.771839	308143.8719	34487.73687	51.00604804	6.04132	HHD
San Joaquin	2023	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	1343.474448	364734.0356	30873.04281	59.83110996	6.09606	5.424995
San Joaquin	2023	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	562.3598205	132501.3964	12923.02868	21.97566159	6.029461	
San Joaquin	2023	T7 Other Port Class 8	Aggregate	Aggregate	Diesel	28.6781176	5381.657637	469.174004	0.90785985	5.927851	
San Joaquin	2023	T7 POAK Class 8	Aggregate	Aggregate	Diesel	131.1211785	13188.01731	2145.142481	2.26470624	5.823279	
San Joaquin	2023	T7 POLA Class 8	Aggregate	Aggregate	Diesel	139.588006	18353.08998	2283.659779	3.154875131	5.817374	
San Joaquin	2023	T7 Public Class 8	Aggregate	Aggregate	Diesel	387.066761	16533.94109	1985.652484	3.205449572	5.158072	
San Joaquin	2023	T7 Single Concrete/Tr	Aggregate	Aggregate	Diesel	118.1878034	8595.904532	1113.329108	1.467125303	5.859012	
San Joaquin	2023	T7 Single Dump Class	Aggregate	Aggregate	Diesel	486.5561857	30707.03937	4583.359269	5.327318734	5.76407	
San Joaquin	2023	T7 Single Other Class	Aggregate	Aggregate	Diesel	1040.735731	57042.4876	9803.730584	9.736964144	5.858344	
San Joaquin	2023	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	175.044521	11346.95226	805.2047965	4.507153801	2.517543	
San Joaquin	2023	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	2638.276559	211937.8172	38334.1584	34.91925222	6.069369	
San Joaquin	2023	T7 Utility Class 8	Aggregate	Aggregate	Diesel	23.22093261	1080.673222	297.2279374	0.186573576	5.792209	
San Joaquin	2023	T7IS	Aggregate	Aggregate	Gasoline	2.419215607	60.00819344	48.40366587	0.018776223	3.195967	
San Joaquin	2023	UBUS	Aggregate	Aggregate	Gasoline	49.369827	3719.55506	197.479308	0.791708132	4.698139	
San Joaquin	2023	UBUS	Aggregate	Aggregate	Diesel	78.33872382	5427.523002	313.3548953	0.602229331	9.012386	
San Joaquin	2028	All Other Buses	Aggregate	Aggregate	Diesel	75.087673	3534.95197	668.2802897	0.39552054	8.937468	
San Joaquin	2028	LDA	Aggregate	Aggregate	Gasoline	251648.0756	10160923.28	1159543.809	322.2820081	31.52805	
San Joaquin	2028	LDA	Aggregate	Aggregate	Diesel	476.6687725	15258.03162	2047.815575	0.340487129	44.81236	
San Joaquin	2028	LDT1	Aggregate	Aggregate	Gasoline	19853.11201	676003.0721	86363.10093	25.74141902	26.2613	
San Joaquin	2028	LDT1	Aggregate	Aggregate	Diesel	1.514132086	18.01588449	4.323023256	0.00068461	26.31556	
San Joaquin	2028	LDT2	Aggregate	Aggregate	Gasoline	115346.5637	4664145.407	535551.9379	178.7797124	26.08878	
San Joaquin	2028	LDT2	Aggregate	Aggregate	Diesel	365.4008573	15804.92743	1741.137467	0.444389463	35.56549	
San Joaquin	2028	LHD1	Aggregate	Aggregate	Gasoline	8967.418734	320263.476	133601.1777	31.82571277	10.06304	
San Joaquin	2028	LHD1	Aggregate	Aggregate	Diesel	7749.679194	261137.0731	97481.21517	16.31989837	16.00115	
San Joaquin	2028	LHD2	Aggregate	Aggregate	Gasoline	1060.430108	36804.35456	15798.82857	4.128261301	8.915219	
San Joaquin	2028	LHD2	Aggregate	Aggregate	Diesel	3004.917923	104795.3214	37798.08728	7.815673005	13.40836	
San Joaquin	2028	MCY	Aggregate	Aggregate	Gasoline	11864.94521	63005.06134	23729.89043	1.547365458	40.71763	
San Joaquin	2028	MDV	Aggregate	Aggregate	Gasoline	90241.20671	3172076.247	406705.1186	152.8689427	20.7503	
San Joaquin	2028	MDV	Aggregate	Aggregate	Diesel	1343.990793	47501.07779	6119.732501	1.869609896	25.40695	
San Joaquin	2028	MH	Aggregate	Aggregate	Gasoline	1150.701442	10130.11857	115.1161722	2.294700863	4.41457	
San Joaquin	2028	MH	Aggregate	Aggregate	Diesel	609.6553626	5150.21088	60.96553626	0.548641656	9.387204	
San Joaquin	2028	Motor Coach	Aggregate	Aggregate	Diesel	21.01557182	2557.945821	482.9378404	0.446341555	5.730916	
San Joaquin	2028	OBUS	Aggregate	Aggregate	Gasoline	152.7075179	6276.985048	3055.372019	1.265329381	4.960752	MHD
San Joaquin	2028	PTO	Aggregate	Aggregate	Diesel	0	20126.03007	0	3.847950714	5.230324	8.770862
San Joaquin	2028	SBUS	Aggregate	Aggregate	Gasoline	136.2534926	7509.127762	545.0139705	0.732722623	10.24825	
San Joaquin	2028	SBUS	Aggregate	Aggregate	Diesel	485.381611	10497.26178	7028.325728	1.266080089	8.291151	
San Joaquin	2028	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	10.57242221	696.4017171	242.9542623	0.075767114	9.191345	
San Joaquin	2028	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	13.75143446	959.7465616	316.0079639	0.104666155	9.169598	
San Joaquin	2028	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	50.39797087	2465.212151	1158.145371	0.264779483	9.310435	
San Joaquin	2028	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	80.86768562	16016.21475	1858.339415	1.567382798	10.21844	
San Joaquin	2028	T6 Instate Delivery Cl	Aggregate	Aggregate	Diesel	258.5402309	8583.496608	3689.369095	1.014139998	8.463818	
San Joaquin	2028	T6 Instate Delivery Cl	Aggregate	Aggregate	Diesel	167.6313304	5590.915462	2392.099084	0.663269993	8.429321	
San Joaquin	2028	T6 Instate Delivery Cl	Aggregate	Aggregate	Diesel	728.3601315	24251.26081	10393.69908	2.866377891	8.460594	
San Joaquin	2028	T6 Instate Delivery Cl	Aggregate	Aggregate	Diesel	138.9169803	7193.829131	1982.345309	0.853371383	8.429893	
San Joaquin	2028	T6 Instate Other Class	Aggregate	Aggregate	Diesel	468.1734225	18991.22317	5412.084764	2.177857116	8.720142	
San Joaquin	2028	T6 Instate Other Class	Aggregate	Aggregate	Diesel	1300.433611	53845.12932	15033.01255	6.178315729	8.715179	
San Joaquin	2028	T6 Instate Other Class	Aggregate	Aggregate	Diesel	972.2660699	39941.62631	11239.39577	4.558219035	8.762551	
San Joaquin	2028	T6 Instate Other Class	Aggregate	Aggregate	Diesel	669.5613644	26880.60719	7740.129373	3.041639388	8.837539	
San Joaquin	2028	T6 Instate Tractor Cla	Aggregate	Aggregate	Diesel	11.36503677	521.142021	131.379825	0.059303654	8.787688	
San Joaquin	2028	T6 Instate Tractor Cla	Aggregate	Aggregate	Diesel	833.9141659	45702.23499	9640.047758	4.948035561	9.23644	
San Joaquin	2028	T6 OOS Class 4	Aggregate	Aggregate	Diesel	6.459130712	426.1216479	148.4308238	0.044746218	9.523076	
San Joaquin	2028	T6 OOS Class 5	Aggregate	Aggregate	Diesel	8.338125424	584.562274	191.6101223	0.06166981	9.478905	
San Joaquin	2028	T6 OOS Class 6	Aggregate	Aggregate	Diesel	31.11493345	1527.477947	715.0211706	0.157329262	9.708798	
San Joaquin	2028	T6 OOS Class 7	Aggregate	Aggregate	Diesel	43.70181097	11106.66407	1004.267616	1.06659513	10.4132	
San Joaquin	2028	T6 Public Class 4	Aggregate	Aggregate	Diesel	29.17247273	1030.679648	149.6547851	0.130645497	7.889133	
San Joaquin	2028	T6 Public Class 5	Aggregate	Aggregate	Diesel	77.18700743	2763.01347	395.9693481	0.348049418	7.938567	
San Joaquin	2028	T6 Public Class 6	Aggregate	Aggregate	Diesel	120.7410735	4384.934966	619.4017071	0.546459542	8.024263	
San Joaquin	2028	T6 Public Class 7	Aggregate	Aggregate	Diesel	145.3344528	6631.619952	745.5657428	0.817346735	8.113594	
San Joaquin	2028	T6 Utility Class 5	Aggregate	Aggregate	Diesel	33.22251128	1336.802543	425.2481444	0.147836241	9.042455	
San Joaquin	2028	T6 Utility Class 6	Aggregate	Aggregate	Diesel	6.28366525	252.2880933	80.4309152	0.027829407	9.065522	
San Joaquin	2028	T6 Utility Class 7	Aggregate	Aggregate	Diesel	6.985419898	348.0048751	89.4133747	0.038057878	9.144096	
San Joaquin	2028	T6TS	Aggregate	Aggregate	Gasoline	498.3566684	26843.99395	9971.120221	5.403565597	4.96783	
San Joaquin	2028	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	1603.851333	325292.5068	36856.50363	49.92458236	6.515678	HHD
San Joaquin	2028	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	1473.453847	403551.226	33859.96941	58.69026473	6.875948	5.777529
San Joaquin	2028	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	634.608223	146602.9921	14583.29697	22.07107519	6.642313	
San Joaquin	2028	T7 Other Port Class 8	Aggregate	Aggregate	Diesel	30.10548681	6271.23511	492.5257642	1.009812387	6.210297	
San Joaquin	2028	T7 POAK Class 8	Aggregate	Aggregate	Diesel	134.3128419	14062.90952	2197.358093	2.331482989	6.031744	
San Joaquin	2028	T7 POLA Class 8	Aggregate	Aggregate	Diesel	162.8751624	22143.1218	2664.637656	3.776328215	5.863665	
San Joaquin	2028	T7 Public Class 8	Aggregate	Aggregate	Diesel	384.8437184	16483.53659	1974.248275	3.053496939	5.398249	
San Joaquin	2028	T7 Single Concrete/Tr	Aggregate	Aggregate	Diesel	119.0680932	8120.724396	1121.621438	1.319872954	6.152656	
San Joaquin	2028	T7 Single Dump Class	Aggregate	Aggregate	Diesel	547.6650019	30112.15526	5159.004318	5.112500645	5.889907	
San Joaquin	2028	T7 Single Other Class	Aggregate	Aggregate	Diesel	1323.663519	59769.04221	12468.91035	9.938108288	6.014127	
San Joaquin	2028	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	153.9129916	9980.392242	707.9997616	3.767293883	2.649221	
San Joaquin	2028	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	3333.434446	229217.9302	48434.8025	36.33949221	6.307681	
San Joaquin	2028	T7 Utility Class 8	Aggregate	Aggregate	Diesel	25.42665346	1096.871469	325.4611643	0.184594119	5.942072	
San Joaquin	2028	T7IS	Aggregate	Aggregate	Gasoline	0.458753371	55.08382365	9.17873744	0.012542307	4.391841	
San Joaquin	2028	UBUS	Aggregate	Aggregate	Gasoline	39.79810813	2881.956137	159.1924325	0.613507912	4.697504	
San Joaquin	2028	UBUS	Aggregate	Aggregate	Diesel	44.25006523	3252.046713	177.0002609	0.350793501	9.270544	

On-road Mobile (Operational) Energy Usage

Step 1:

Therefore:

Average Daily VMT:

86,683 Source: Fehr & Peers

Step 2:

Given:

Fleet Mix (CalEEMod Output)

LDA	LDT1	LDT2	Check
66.7352%	4.8027%	28.4621%	100.0%

And:

Gasoline MPG Factors for each Vehicle Class - Year 2028 (EMFAC2021 Output)

LDA	LDT1	LDT2
31.52805004	26.2613	26.08878

Therefore:

Weighted Average MPG Factors

Gasoline: **29.7** Diesel: **N/A**

Step 3:

Therefore:

2,916	**daily gallons of gasoline**	**-**	**daily gallons of diesel**
or			
1,064,330	**annual gallons of gasoline**	**-**	**annual gallons of diesel**

Off-road Mobile (Construction) Energy Usage

Note: For the sake of simplicity, and as a conservative estimation, it was assumed that all off-road vehicles use diesel fuel as an energy source.
Demolition (if applicable), Site preparation and grading off-road mobile vehicle on-site gallons of fuel are calculated below.

Given Factor:	**343.1**	**metric tons**	**CO2**	**(provided in CalEEMod Output File)**
Conversion Factor:	2204.6262	pounds	per metric ton	
Intermediate Result:	**756,407**	**pounds**	**CO2**	
Conversion Factor:	22.38	pounds	CO2 per 1 gallon of diesel fuel	Source: U.S. EIA, 2016
Final Result:	**33,798**	**gallons**	**diesel fuel**	http://www.eia.gov/tools/faqs/faq.cfm?id=307&t=11

Mitigated Onsite Scenario	Total CO2 (MT/yr) (provided in CalEEMod Output File)
Demolition -	15.6
Site Preparation - 2023	145.0
Grading - 2023	51.5

On-road Mobile (Construction) Energy Usage - Demolition

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod output)**
15

Worker Trip Length (miles) (CalEEMod output)
11.9

Therefore:
Average Worker Daily VMT:
179

Step 2: Given:
Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:
Gasoline MPG Factors for each Vehicle Class - Year 2023 (EMFAC2021 Output)

LDA	LDT1	LDT2
28.648608	23.888649	23.161608

Therefore:
Weighted Average Worker MPG Factor
26.09

Step 3: **Therefore:**
7 Worker daily gallons of gasoline (all workers)

Step 4: 10 **# of Days (CalEEMod ouput)**

Therefore:
Result: 68 Total gallons of gasoline (all workers)

Total Hauler Trips (CalEEMod Output)
-
Note: Hauler trips are total values (not daily).

Hauler Trip Length (miles) (CalEEMod Output)
20

Average Hauler Daily VMT:
-

Fleet Mix for Workers (CalEEMod Output)

MHD	HHD
0%	100%

Diesel MPG Factors for each Vehicle Class - Year 2023 (EMFAC2021 Output)

MHD	HHD
8.428594	5.424995

Therefore:
Weighted Average Hauler (Diesel) MPG Factor
5.42

Therefore:
0 Worker daily gallons of gasoline (all workers)

Therefore:
Result: - Hauler gallons of diesel

On-road Mobile (Construction) Energy Usage - Site Preparation

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

18

Worker Trip Length (miles) (CalEEMod Output)

11.9

Therefore:

Average Worker Daily VMT:

214

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class - Year 2023 (EMFAC2021 Output)

LDA	LDT1	LDT2
28.648608	23.88865	23.16161

Therefore:

Weighted Average Worker MPG Factor

26.1

Step 3: **Therefore:**

8.2 Worker daily gallons of gasoline

Step 4: 60 **# of Days (CalEEMod Output)**

Therefore:

Result: **493** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Grading

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

20

Worker Trip Length (miles) (CalEEMod Output)

11.9

Therefore:

Average Worker Daily VMT:

238

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	**LDT1**	**LDT2**
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class - Year 2023 (EMFAC2021 Output)

LDA	**LDT1**	**LDT2**
28.648608	23.888649	23.161608

Therefore:

Weighted Average Worker MPG Factor

26.1

Step 3: **Therefore:**

9.1 Worker daily gallons of gasoline

Step 4: 61 **# of Days (CalEEMod Output)**

Therefore:

Result: **557** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Building Construction

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1:

Total Daily Worker Trips (CalEEMod Output)

401	5%	**20**

Total Daily Vendor Trips (CalEEMod Output)

98	5%	**5**

Note: Assumes 5% of Plan Area under construction at given point in time (on average) until buildout.

Worker Trip Length (miles) (CalEEMod Output)

11.9

Vendor Trip Length (miles) (CalEEMod Output)

9.1

Therefore:

Average Worker Daily VMT:

239

Average Vendor Daily VMT:

44

Step 2:

Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

Assumed Fleet Mix for Vendors

Fleet Mix for Workers (CalEEMod Output)

MHD	HHD
0%	100%

And:

MPG Factors for each Vehicle Class - Year 2023 (EMFAC2021 Output)

<u>Gasoline:</u>

LDA	LDT1	LDT2
28.6486079	23.888649	23.161608

<u>Diesel:</u>

MHD	HHD
8.428594268	5.4249952

Therefore:

Weighted Average Worker (Gasoline) MPG Factor

26.1

Weighted Average Vendor (Diesel) MPG Factor

5.4

Step 3:

Therefore:

9 Worker daily gallons of gasoline

Therefore:

8 Vendor daily gallons of diesel

Step 4:

599 **# of Days (CalEEMod Output)**

Therefore:

5,479 Total gallons of gasoline

Therefore:

4,913 Total gallons of diesel

On-road Mobile (Construction) Energy Usage - Paving

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

15

Worker Trip Length (miles) (CalEEMod Output)

11.9

Therefore:

Average Worker Daily VMT:

179

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	**LDT1**	**LDT2**
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class - Year 2023 (EMFAC2021 Output)

LDA	**LDT1**	**LDT2**
28.648608	23.88865	23.16161

Therefore:

Weighted Average Worker MPG Factor

26.1

Step 3: **Therefore:**

6.8 Worker daily gallons of gasoline

Step 4: 100 **# of Days (CalEEMod Output)**

Therefore:

Result: **684** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Architectural Coating

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

80	5%	4

Note: Assumes 5% of Plan Area under construction at given point in time (on average) until buildout.

Worker Trip Length (miles) (CalEEMod Output)

11.9

Therefore:

Average Worker Daily VMT:

48

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	**LDT1**	**LDT2**
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class - Year 2023 (EMFAC2021 Output)

LDA	**LDT1**	**LDT2**
28.648608	23.88865	23.16161

Therefore:

Weighted Average Worker MPG Factor

26.1

Step 3: **Therefore:**

1.8 Worker daily gallons of gasoline

Step 4: 100 **# of Days (CalEEMod Output)**

Therefore:

Result: **183** **Total gallons of gasoline**

APPENDIX B.3

GHG Calculation Methodology

Greenhouse Gas Efficiency Metric Calculation Methodology – Manteca Annexation #1 Project

The methodology used for assessing the proposed project's consistency with GHG targets established in AB 32 is the use of GHG efficiency metrics to assess the GHG efficiency of the project on a "service population (SP)" basis (the sum of the number of jobs and the number of residents provided by a project). These metrics represent the rate of emissions needed to achieve a fair share of the state's emissions mandate embodied in AB 32. The use of "fair share" in this instance indicates the GHG efficiency level that, if applied statewide, would meet the AB 32 emissions target and support efforts to reduce emissions beyond 2020.

GHG efficiency metrics for the project were developed based on emissions rates for the land use-driven emission sectors in the CARB's GHG inventory. The GHG efficiency metric is only based on sectors that would accommodate projected growth (as indicated by population and employment growth) while allowing for consistency with the goals of AB 32 (i.e., 1990 GHG emissions levels by 2020). The per service population efficiency target is based on the AB 32 GHG reduction target and GHG emissions inventory prepared for the CARB's 2008 Scoping Plan.

To develop the efficiency metric for 2020, land-use driven sectors in the CARB's 1990 GHG inventory were identified and separated to tailor the inventory to land use projects. This process removes emission sources that would not be applicable to the project area. For example, emissions associated with ships and commercial boats, aviation, rail, industrial sources, agriculture and forestry, and unspecified sectors were removed from the CARB's 1990 inventory in order to exclude non-land use sectors. The exceptions for the industrial sector are the landfill and domestic wastewater sub-sectors which were included in development of the GHG efficiency metric because emissions from these sectors are included in the project's emissions profile. Isolating the land use-driven sectors from the CARB's overall inventory ensures that the threshold is directly applicable to land use projects, whereby emission sectors included in the inventory used for developing the GHG efficiency metric can be mapped to a project's emissions data. For example, emissions associated with on-road transportation, electricity, natural gas, wastewater treatment, and solid waste are included in both the inventory used to develop the GHG efficiency metric and the project's operational emissions. The CARB's complete 1990 inventory and the adjusted land use-driven emissions inventory are shown on the following pages.

The land-use sector driven inventory for 1990 was divided by the population and employment projections for California in 2020. Detailed calculations showing derivation of the efficiency metrics are shown on the following pages. The efficiency metric allows the threshold to be applied evenly to all project types (residential, commercial/retail and mixed use) and uses an emissions inventory comprised only of sources from land-use related sectors. The efficiency approach allows lead agencies to assess whether any given project or plan would accommodate population and employment growth in a way that is consistent with the emissions limit established under AB 32. The resultant GHG efficiency metric would be (approximately) 4.84 MT CO_2e/SP/year for 2020 (as provided below).

The proposed project is anticipated to be built out in year 2025 or year 2028. The CARB has indicated that an average statewide GHG reduction of 5.2 percent per year would be necessary to achieve the 2030 target[1,2]. Therefore, a GHG efficiency target in terms of metric tons per service population, similar to the one developed for 2020, were estimated for year 2025 and year 2028, to allow evaluation of the project's GHG emissions in the post-2020 landscape. In addition, based on a request by the applicant, a GHG efficiency target for year 2030 is also provided, following the same methodology. The equivalent target for year 2025 computes to 3.56 MT CO_2e/SP/year; the equivalent target for year 2028 computes to approximately 2.96 MT CO_2e/SP/year; the equivalent target for year 2030 computes to approximately 2.62 MT CO_2e/SP/year. These targets were estimated by applying a uniform reduction from the CARB's 1990 emissions inventory and dividing the resultant value by the projected population and employment in these future years.

These GHG efficiency metrics were derived based on the reduction trajectory the state needs to maintain to achieve its 2030 goals (an approximately 5.2 percent reduction per year) (CARB, 2016). All calculations are based on the IPCC Second Assessment Report's Global Warming Potentials to allow consistent comparison between the ARB 1990 inventory and the California Emissions Estimator Model (CalEEMod; used to estimate project emissions).

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[1] California Air Resources Board. 2016. California Climate Strategy. January 29, 2016. Available at: http://docketpublic.energy.ca.gov/PublicDocuments/15-RETI-02/TN210091_20160129T154626_California_Climate_Strategy_CARB_for_RETI_20_Plenary_Meeting_on.pdf

[2] California Air Resources Board. 2015. 2030 Target Scoping Plan Workshop Slides. (October 1, 2015). Available at: http://www.arb.ca.gov/cc/scopingplan/meetings/10_1_15slides/2015slides.pdf

California Greenhouse Gas Inventory for 1990 – by Sector and Activity (Land Use-driven sectors only)
Million metric tons of CO_2-equiavlent (CO_2e) – (based on IPCC Second Assessment Report's Global Warming Potentials) (CARB, 2007).

Year 1990

Transportation	
On Road	
Passenger Cars	63.77
Light Duty Trucks	44.75
Motorcycles	0.43
Heavy Duty Trucks	29.03
Freight	0.02
Electricity Generation In-State	
CHP: Commercial	***0.70***
Merchant Owned	***2.33***
Transmission and Distribution	***1.56***
Utility Owned	***29.92***
Electricity Generation In-State	
Specified Imports	***29.61***
Transmission and Distribution	***1.02***
Unspecified Imports	***30.96***
Commercial	
CHP: Commercial	***0.40***
Communication	***0.07***
Domestic Utilities	***0.34***
Education	***1.42***
Food Services	***1.89***
Healthcare	***1.32***
Hotels	***0.67***
Not Specified Commercial	***5.58***
Offices	***1.46***
Retail & Wholesale	***0.68***
Transportation Services	***0.03***
Residential	
Household Use	***29.66***
Industrial	
Landfills	***6.26***
Wastewater Treatment	
Domestic Wastewater	2.83
Total Emissions	**286.70**

Future Year Service Population Thresholds

	2020	2025	2028	2030
Population	40,719,999	42,369,923	43,359,877	44,019,846
Employment	18,511,200	19,261,251	19,711,281	20,011,301
Service Population	59,231,199	61,631,173	63,071,158	64,031,147
Emissions (Million Metric Tons)	286.70	196.17	186.66	167.67
MT/SP	**4.84**	**3.18**	**2.96**	**2.62**

Notes:

SP = service population.

*Assumes proportion of employed persons to the overall population remains equal to that as was applicable in 2020.

Post-2020 Emissions are based on an annual 5.2% reduction from 2020 (CARB, 2016).

Sources:

California Air Resources Board (CARB). 2007. Staff Report: California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit. Public Release Date: November 16, 2007. Available: https://www.arb.ca.gov/cc/inventory/1990level/1990level.htm

California Air Resources Board (CARB). 2015. 2030 Target Scoping Plan Workshop Slides. (October 1, 2015). Available: http://www.arb.ca.gov/cc/scopingplan/meetings/10_1_15slides/2015slides.pdf

California Air Resources Board (CARB). 2016. California Climate Strategy. January 29, 2016. Available at: http://docketpublic.energy.ca.gov/PublicDocuments/15-RETI-02/TN210091_20160129T154626_California_Climate_Strategy_CARB_for_RETI_20_Plenary_Meeting_on.pdf

California Department of Finance, Demographics Research Unit (Total Estimated and Projected Population for California and Counties: July 1, 2010 to July 1, 2060 in 5-year Increments. Published February, 2017.

California Department of Finance Employment Development Department. Industry Employment Projections Labor Market Information Division 2010-2020. Published 5/23/2012.

Appendix G

SMAQMD's Greenhouse Gas Thresholds for Sacramento County

Prepared for
Sacramento Metropolitan Air Quality Management District
Sacramento, California

Prepared by
Ramboll US Corporation
San Francisco, California

Project Number
1690006005-013

Date
March 4, 2020, report released
April 23, 2020, Board adopted thresholds
June 1, 2020, SMAQMD finalized document

GREENHOUSE GAS THRESHOLDS FOR SACRAMENTO COUNTY

SMAQMD
SACRAMENTO, CALIFORNIA

RAMBOLL

CONTENTS

APPENDICES

1. INTRODUCTION

1.1 History of GHG Thresholds of Significance and Need for Update

The Sacramento Air Quality Management District (SMAQMD) is one of 35 regional air quality districts in California responsible for local air quality planning, monitoring, and stationary source and facility permitting. SMAQMD covers all of Sacramento County, including the cities of Sacramento, Citrus Heights, Folsom, Rancho Cordova, Elk Grove, Galt, Isleton, and unincorporated Sacramento County. Under the California Environmental Quality Act (CEQA) review process for proposed projects, SMAQMD may serve as the lead agency, a responsible agency with limited discretionary authority, or a reviewing agency providing comment on the air quality impacts of a proposed project or plan. CEQA requires that lead agencies identify significant environmental impacts, including impacts from greenhouse gas (GHG) emissions, and to avoid or mitigate those impacts if feasible.

To assist lead agencies in determining significance, in October 2014 SMAQMD adopted the current GHG thresholds of significance which include a construction threshold (1,100 metric tons GHG/year), a land use operational threshold (1,100 metric tons GHG/year), and a stationary source operational threshold (10,000 metric tons GHG/year). Projects whose emissions are expected to meet or exceed the significance criteria will have a potentially significant adverse impact on global climate change. Originally, SMAQMD recommended a 21.7% mitigation from Business as Usual scenario for projects that exceeded the operational thresholds, based on the Business as Usual approach presented in the California Air Resources Board (CARB) 2011 Final Supplement to the 2008 Climate Change Scoping Plan.[1] As a result of the California Supreme Court decision in *Center for Biological Diversity v. California Department of Fish and Wildlife and Newhall Land and Farming* in January 2016, SMAQMD recommended suspending the use of Business as Usual analysis and the recommended 21.7% mitigation level for projects exceeding the operational thresholds. This left agencies with the 1,100 metric tons GHG/year screening threshold and the need to demonstrate all feasible mitigation for projects exceeding the threshold. SMAQMD encouraged local agencies in Sacramento County to develop a climate action plan (CAP) or GHG reduction plan that could be used by the local agency to reduce GHG emissions and streamline CEQA review for development projects, which can provide adequate mitigation for GHG impacts by demonstrating consistency with the reduction measures adopted in the CAP. As of August 2019, the following local lead agencies within SMAQMD either have adopted or are in the process of preparing a CAP or GHG reduction plan:

Jurisdiction	CAP or GHG Plan Status	Target Years
County of Sacramento	Government Operations Only, Adopted 2012	2020
City of Sacramento	Adopted 2012	2020, 2035, 2050
City of Elk Grove	Adopted 2019	2020, 2030, 2050

[1] The regulations, court cases, and GHG plans cited in this section are described in further detail in the Regulatory Background Section 1.2 of this report.

City of Folsom	Adopted 2018	2020, 2030, 2040, 2050
City of Citrus Heights	Adopted 2011	2020
City of Rancho Cordova		
City of Galt	Adopted 2020	2030, 2050
City of Isleton		

As shown in the table above, a limited number of jurisdictions have adopted plans with longer-term targets. Therefore, SMAQMD CEQA thresholds of significance are needed to support jurisdictions which have not yet adopted a qualified CAP or GHG reduction plan with the appropriate horizon year for given projects. Even for jurisdictions with adopted CAP or GHG reduction plans, the jurisdiction may also choose to pursue projects that do not demonstrate consistency with a local agency's CAP, so the ability to instead show compliance with the SMAQMD thresholds would allow flexibility.

Furthermore, changes in State legislation and approval of the 2017 Climate Change Scoping Plan since the adoption of the SMAQMD's 2014 thresholds of significance have established the need for a threshold review and update. In September 2016, Senate Bill 32 (SB 32) established the State target to reduce GHG emissions 40% below 1990 levels by 2030. Additionally, the California Air Resources Board (CARB) adopted its Climate Change Scoping Plan in December 2017, which provided recommended per capita community emission targets that could support the State's efforts to reach climate goals. Those targets include achieving 6 metric tons GHG/year/person by 2030 and 2 metric tons GHG/year/person by 2050. Additionally, CARB recognized that GHG reduction efforts being undertaken by Metropolitan Planning Organizations in compliance with SB 375, through Metropolitan Transportation Plans/Sustainable Community Strategies (MTP/SCS), would not provide sufficient reductions in GHG emissions and vehicle miles traveled to meet the 2050 State climate goals.

For these reasons, SMAQMD is proposing an update to the its CEQA GHG thresholds of significance, to assist lead agencies in determining significance for proposed projects through 2030 and beyond. Section 1.2 of this report provides additional background on the regulation of GHGs at the federal, state, and local levels, and the recent legislation and court decisions that prompted the need for updates to the SMAQMD significance thresholds. Section 2 of this report provides an overview of the strategy used to develop the updated significance thresholds. Section 3 estimates Sacramento County GHG emissions in 2030, and from this, Section 4 estimates 2030 GHG emissions by sector for new and existing development within Sacramento County. This analysis sets the stage for the establishment of 2030 GHG targets and Best Management Practices (BMPs) by place type (Section 4), and GHG targets for project buildouts beyond 2030 (Section 5). Section 6 describes requirements to show consistency with longer-term State targets.

1.2 Regulatory Background: Federal, State, and Local

1.2.1 Federal

1.2.1.1 U.S. Supreme Court Ruling on GHGs

In Massachusetts et al. v. Environmental Protection Agency, 549 US 497 (2007), the U.S. Supreme Court held that the United States Environmental Protection Agency (USEPA) was authorized by the Clean Air Act to regulate CO2 emissions from new motor vehicles. The Court did not mandate that the USEPA enact regulations to reduce GHG emissions, but found that the only instances in which the USEPA could avoid taking action were if it found that GHGs do not contribute to climate change or if it offered a "reasonable explanation" for not determining that GHGs contribute to climate change.

On December 7, 2009, the USEPA issued an "endangerment finding" under Section 202(a) of the Clean Air Act, concluding that GHGs threaten the public health and welfare of current and future generations and that motor vehicles contribute to GHG pollution. These findings provide the basis for adopting new national regulations to mandate GHG emission reductions under the federal Clean Air Act.

1.2.1.2 Stationary Sources

On September 22, 2009, the USEPA issued the Final Mandatory Reporting of Greenhouse Gases Rule (40 CFR Part 98). The rule requires annual reporting to the USEPA of GHG emissions from certain large industrial and commercial sources that emit 25,000 metric tons or more a year of GHGs. The rule is intended to collect accurate and timely emissions data to guide future policy decisions on climate change.

1.2.1.3 Mobile Sources

Also in response to the Massachusetts et al. v. USEPA ruling discussed above, an Executive Order was issued on May 14, 2007 directing the USEPA, the Department of Transportation (DOT), and the Department of Energy (DOE) to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. Subsequently, the USEPA and National Highway Traffic Safety Administration (NHTSA) issued a series of joint rulemakings that regulate fuel efficiency and GHG emissions from cars and light-duty trucks of model year 2011 (March 2009 rule), model years 2012-2016 (May 2010 rule), model years 2017-2021 (October 2012 rule), and model years 2021-2026 (August 2018 proposed rule, currently pending). The USEPA and NHTSA also established fuel efficiency and GHG standards for medium- and heavy-duty trucks of model years 2014-2018 (August 2011 rule) and model years 2018-2027 (August 2016 rule).

1.2.1.4 Other Sources

In addition to the rules and regulations developed with respect to stationary and mobile sources, discussed above, various other federal developments have occurred that aim to reduce GHGs from other sources, including land use activities.

- Created under the Energy Policy Act of 2005, the Renewable Fuel Standards (RFS) program established the first renewable fuel volume mandate in the United States, for blending renewable fuel into gasoline. Under the 2007 Energy Independence and Security Act (EISA), the RFS program was expanded to include diesel, and required the USEPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

- The 2007 EISA also included several other provisions to reduce national GHG emissions: it issued energy efficiency standards and labeling for heating, cooling, consumer electronic, and home appliance products; set requirements for phasing out incandescent light bulbs and improving light bulb efficiency; and promoted green jobs and research in alternative energy and carbon capture.
- The 2009 American Recovery and Reinvestment Act (ARRA) was passed in response to the economic crisis of the late 2000s, with the primary purpose of maintaining existing jobs and creating new jobs. Among the secondary objectives of ARRA was investment in "green" energy programs such as funding private companies developing renewable energy technologies; local and state governments implementing energy efficiency and clean energy programs; research in renewable energy, biofuels, and carbon capture; and the development of high efficiency or electric vehicles.
- The 2015 Clean Power Plan (80 FR 64510-64660) prescribed how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units and established CO_2 emission performance standards. Implementation of the Clean power Plan was stayed by the U.S. Supreme Court pending resolution of several lawsuits. In August 2018, the USEPA issued the proposed Affordable Clean Energy (ACE) Rule to replace the Clean Power Plan; rulemaking proceedings are currently pending.
- The USEPA has also developed a number of voluntary programs to provide opportunities for industry, the USEPA, and other organizations in both the public and private sectors to work together to reduce GHG emissions. These include the Center for Corporate Climate Leadership, the Green Power Partnership, the National Clean Diesel Campaign, and State and Local Climate and Energy Programs.

1.2.2 State

California has adopted various administrative initiatives and also enacted a variety of legislation relating to climate change, much of which sets aggressive goals for GHG emissions reductions within the state. However, none of this legislation provides definitive direction regarding the treatment of climate change in environmental review documents prepared under CEQA. In particular, the amendments to the CEQA Guidelines do not require or suggest specific methodologies for performing an assessment of thresholds of significance, and do not specify GHG reduction mitigation measures. Instead, the CEQA Guidelines amendments continue to rely on lead agencies to choose methodologies and make significance determinations based on substantial evidence, as discussed in further detail below. Consequently, no State agency has promulgated binding regulations for analyzing GHG emissions, determining their significance, or mitigating any significant effects in CEQA documents.

The discussion below provides a brief overview of CARB and Office of Planning and Research (OPR) documents, and of the primary legislation and court cases that relate to climate change and informed the development of the proposed SMAQMD significance thresholds. It begins with an overview of the primary regulatory acts that have driven GHG regulation in California, which underlie many of the GHG rules and regulations that have been developed.

1.2.2.1 Executive Order S-3-05 (Statewide GHG Targets for 2010, 2020, and 2050)

California Executive Order S-03-05 (June 1, 2005) establishes the goal of reducing GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050.

1.2.2.2 Executive Order B-30-15 (Statewide GHG Targets for 2030)

In April 2015, Governor Brown signed Executive Order B-30-15, which established the following GHG emission reduction goal for California: by 2030, reduce GHG emissions to 40 percent below 1990 levels. This Executive Order also directed all state agencies with jurisdiction over GHG-emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in Executive Order S-3-05 (see discussion above). Additionally, the Executive Order directed CARB to update its Scoping Plan (see discussion below) to address the 2030 goal.

The Legislature adopted SB 32 to enact the Executive Order's 2030 goal, as described further below.

1.2.2.3 Assembly Bill 32 (Statewide GHG Reductions)

Assembly Bill (AB) 32 (Nunez, 2006), the California Global Warming Solutions Act of 2006, was enacted after considerable study and expert testimony before the Legislature. The heart of AB 32 is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020. In order to achieve this reduction mandate, 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.

Of relevance to this analysis, in 2007, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline. CARB's adoption of this limit is in accordance with Health & Safety Code Section 38550, as codified through enactment of AB 32.

Per Health & Safety Code Section 38561(b), CARB also is required to prepare, approve and amend a scoping plan that identifies and makes recommendations on "direct emission reduction measures, alternative compliance mechanisms, market-based compliance mechanisms, and potential monetary and nonmonetary incentives for sources and categories of sources that [CARB] finds are necessary or desirable to facilitate the achievement of the maximum feasible and cost-effective reductions of greenhouse gas emissions by 2020."

2008 Scoping Plan

In 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (2008 Scoping Plan) in accordance with Health & Safety Code Section 38561. During the development of the 2008 Scoping Plan, CARB created a planning framework that is comprised of eight emissions sectors: (1) transportation; (2) electricity; (3) commercial and residential; (4) industry; (5) recycling and waste; (6) high global warming potential (GWP) gases; (7) agriculture; and, (8) forest net emissions.

The 2008 Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions from the eight emissions sectors to 1990 levels by 2020. In the 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 (referred to as "Business-As-Usual" [BAU]).[2] 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.

To achieve the necessary GHG reductions to meet AB 32's 2020 target, CARB developed a series of reduction measures in the Scoping Plan covering a range of sectors and activities. Broadly, the reduction measures can be separated into capped sectors (i.e., covered by the Cap-and-Trade Program discussed below) and uncapped sectors.

Multiple Scoping Plan measures broadly cover emissions associated with land use development, including, but not limited to:

- *Energy Efficiency/Green Buildings.* The Scoping Plan highlights the importance of energy efficiency efforts in reducing GHG emissions from residential and commercial development and indicates that zero net energy (ZNE) should be the overarching and unifying concept for energy efficiency.
- *Regional Transportation-Related GHG Targets (SB 375*). The Scoping Plan relies on Senate Bill (SB) 375, discussed below, as an important mechanism to reduce mobile GHG emissions by integrating land use planning and transportation planning at the regional and local level.
- *Vehicle Emissions*. The Scoping Plan relies on various engine, fuel and other efficiency improvement programs and increasing electrification of the vehicle fleet.
- *Cap-and-Trade Program*. The Scoping Plan identifies the Cap-and-Trade program as a lynchpin, overarching strategy for California to reduce GHG emissions. As explained in the Scoping Plan, the program's implementing regulations provide assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions.

In the 2011 *Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document* (2011 Final Supplement), CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 percent (down from 28.5 percent) from the BAU conditions. When the 2020 emissions level projection also was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewable Portfolio Standard (12 percent to 20 percent), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16 percent (down from 28.5 percent) from the BAU conditions.

2014 First Update to the Scoping Plan

In 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework* (2014 First Update).[3] The stated purpose of the 2014 First Update is to

[2] CARB. 2008. Climate Change Scoping Plan: A Framework for Change. December. Available at: https://ww3.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed: March 2020.

[3] Health & Safety Code Section 38561(h) requires CARB to update the Scoping Plan every five years.

"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."[4] 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 with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050, if the State attains the expected benefits of existing policy goals.

In conjunction with the 2014 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."[5] 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."[6] 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.

As part of the 2014 First Update, CARB recalculated the State's 1990 emissions level using the GWPs identified by the Intergovernmental Panel on Climate Change's Fourth Climate Change Assessment (2007). Using the recalculated 1990 emissions level and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15.3 percent (instead of 28.5 percent or 16 percent) from the "BAU" conditions.

The 2014 First Update included a strong recommendation from CARB for setting a mid-term statewide GHG emissions reduction target. CARB specifically recommended that the mid-term target be consistent with: (i) the United States' pledge to reduce emissions 42 percent below 2005 levels (which translates to a 35-percent reduction from 1990 levels in California); and (ii) the long-term policy goal of reducing emissions to 80 percent below 1990 levels by 2050.

2017 Scoping Plan

In 2017, CARB adopted *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target* (2017 Scoping Plan).[7] This 2017 Scoping Plan addresses Executive Order B-30-15 (described earlier) and SB 32 (described in a later

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[4] CARB. 2014. First Update to the Climate Change Scoping Plan: Building on the Framework. May. Available at: https://ww3.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf. Accessed: March 2020.

[5] Ibid.

[6] Ibid.

[7] CARB. 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. November. Available at: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed: March 2020.

section), which extend the goals of AB 32 and set a 2030 goal of reducing emissions 40 percent below 1990 levels. The 2017 Scoping Plan includes the following major elements for reaching the 2030 Target:

1. SB 350

   The objective of this policy element is to enhance existing programs and implement SB 350, with a target of achieving 50 percent Renewables Portfolio Standard (RPS) and a doubling of energy efficiency savings in natural gas and electricity end uses statewide by 2030.

2. Low Carbon Fuel Standard (LCFS)

   The objective of this policy element is to transition to cleaner/less-polluting transportation fuels that have a lower carbon intensity, with a goal of a 20 percent reduction in carbon intensity statewide by 2030.

3. Mobile Source Strategy

   This strategy will reduce GHGs and other pollutants from the transportation sector through transition to zero- and low-emission vehicles, cleaner transit systems, and reduction of vehicle miles traveled (VMT). Highlights of this strategy include a target of 4.2 million zero-emission vehicles on the road by 2030; reduction in GHGs from medium- and heavy-duty vehicles via the Phase 2 Medium- and Heavy-Duty GHG Standards; a suite of innovative clean transit options including requirements for the deployment of zero-emission buses, and emissions standards for new natural gas and diesel buses; a new "Last Mile Delivery" regulation for certain delivery trucks that would result in the use of cleaner engines and zero-emission vehicles; and reduction in VMT to be achieved in part by the continued implementation of regional Sustainable Community Strategies pursuant to SB 375 (described in a later section) and other statewide strategies.

4. SB 1383

   This Short-Lived Climate Pollutant strategy will achieve a 40 percent reduction in methane and hydrofluorocarbon emissions and a 50 percent reduction in anthropogenic black carbon emissions below 2013 levels by 2030.

5. California Sustainable Freight Action Plan

   This plan will improve freight system efficiency by 25 percent by 2030, deploy over 100,000 zero emission freight vehicles and equipment, and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.

6. Post 2020 Cap-and-Trade Program

   CARB will continue the existing Cap-and-Trade Program after 2020 with declining caps.

With the exception of the post-2020 Cap-and-Trade Program, the above measures and policies are considered "known commitments" meaning that they were existing programs or required by statute prior to the adoption of the 2017 Scoping Plan. (Since adoption of the 2017 Scoping Plan, legislation was enacted extending the horizon year of the Cap-and-Trade Program to 2030.)

The 2017 Scoping Plan also addressed how CEQA can be used to further statewide GHG reduction goals. The Plan recommends GHG reduction goals that can apply to plan- or project-level analyses to be incorporated into environmental documentation in support of CEQA. The Plan states that a per capita GHG target is "appropriate for the plan level (city, county, subregional, or regional level), but not for specific individual projects, because [CARB's metric] includes all emissions sectors in the State." Project-level goals may be supported by local governments or lead agencies and include potential strategies such as tiering from a geographically specific GHG reduction plan, comparing to service population emissions targets, implementing all feasible mitigation measures, achieving zero net GHG emissions, or emitting less than bright-line numerical thresholds.

Cap-and-Trade Program

The California Global Warming Solutions Act of 2006 (AB 32) allowed, but did not require, CARB to include among the mechanisms intended to reduce GHG emissions a "system of market-based declining annual aggregate emission limits." In turn, the Scoping Plan, approved by CARB on December 11, 2008, directed CARB staff to develop, among other programs, a cap-and-trade mechanism that would apply a declining aggregate cap on GHG emissions[8] and provide a flexible compliance system using tradable instruments.

On July 25, 2017, the Governor of California approved AB 398 which extended the cap-and-trade program to 2030. Under AB 398, the statewide GHG emissions goal is 40 percent below 1990 levels by 2030.

Co-Pollutant Benefits

Implementation of the cap-and-trade program will also reduce statewide emissions of criteria and toxic air pollutants. Because GHG emissions are largely the result of fuel combustion, as the cap decreases and combustion decreases, criteria and toxic air pollutants associated with combustion will also decrease. CARB also evaluated the potential for localized impacts from short-term increases in construction and operational emissions at facilities modifying operations in response to cap-and-trade compliance obligations. CARB's analysis indicated that localized impacts are unlikely due to existing local and state air quality regulations; however, where there is potential for significant impact from a proposed project, it would be addressed by local permitting agencies and CEQA lead agencies through the permitting and CEQA processes in which mitigation measures are evaluated.

1.2.2.4 Senate Bill 32 and Assembly Bill 197 (Statewide GHG Targets for 2030)

Enacted in 2016, SB 32 (Pavley, 2016) codifies the 2030 emissions reduction goal of Executive Order B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030.

SB 32 was coupled with a companion bill: AB 197 (Garcia, 2016). Designed to improve the transparency of CARB's regulatory and policy-oriented processes, AB 197 created the Joint Legislative Committee on Climate Change Policies, a committee with the responsibility to ascertain facts and make recommendations to the Legislature concerning statewide programs, policies and investments related to climate change. AB 197 also requires CARB to make certain GHG emissions inventory data publicly available on its website; consider the social costs of GHG emissions when adopting rules and regulations designed to achieve GHG

8 The cap-and-trade regulation applies to the following GHGs: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

emission reductions; and include specified information in all Scoping Plan updates for the emission reduction measures contained therein.

1.2.2.5 Executive Order B-55-18 (Carbon Neutrality)

In September 2018, Governor Brown signed EO B-55-18, which established a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." This EO directs CARB to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal."

In January 2019, CARB held a workshop regarding carbon neutrality in California, during which CARB staff explained that the definitional parameters and meaning of the term – carbon neutrality – are still being explored. CARB intends to hold additional workshops to explore specific topics related to the pursuit of carbon neutrality, engage with other experts in the field and stakeholders, and conduct research to ensure that any path to carbon neutrality balances scientific, economic and social justice principles.

1.2.2.6 Regulation of Energy-Related Sources

Renewables Portfolio Standard (SB 100)

As most recently amended by SB 100 (2018), California's Renewables Portfolio Standard requires retail sellers of electric services and local publicly-owned electric utilities to increase procurement from eligible renewable energy resources to 50 percent of total retail sales by 2026, and 60 percent of total retail sales by 2030. SB 100 also established a state policy goal to achieve 100 percent renewables by 2045.

GHG Emissions Standard for Baseload Generation (SB 1368)

SB 1368 (September 29, 2006) prohibits any retail seller of electricity in California from entering into a long-term financial commitment for baseload generation if the GHG emissions are higher than those from a combined-cycle natural gas power plant. This performance standard applies to electricity generated out-of-state as well as in the state, and to publicly owned as well as investor-owned electric utilities.

1.2.2.7 Regulation of Mobile Sources

Senate Bill 375 (Land Use Planning)

SB 375 provided for a new planning process to coordinate land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 requires Metropolitan Planning Organizations (MPOs), including the Sacramento Area Council of Governments (SACOG), to incorporate a "sustainable communities strategy" (SCS) in their regional transportation plans (RTPs) that will achieve GHG emission reduction targets set by CARB, primarily by reducing VMT from light-duty vehicles through development of more compact, complete, and efficient communities.

SB 375 also required CARB to appoint a Regional Targets Advisory Committee (RTAC) to recommend factors and methodologies for CARB to use in setting GHG emission reduction targets (Regional Targets) for each region. On September 29, 2009, the RTAC released its recommendations to CARB, who, on September 23, 2010, adopted Regional Targets for the years 2020 and 2035. The 2010 Regional Targets were 7% for 2020 and 16% for 2035 for the area under SACOG's jurisdiction, which includes Sacramento County. In 2018, CARB revised these Regional Targets to 7% for 2020 and 19% for 2035.[9]

In February 2016, SACOG issued the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) for the Sacramento region. The MTP/SCS supports the 2004 Sacramento Region Blueprint, which implements smart growth principles, including housing choice, compact development, mixed-use development, natural resources conservation, use of existing assets, quality design and transportation choice.[10] The Sacramento Region Blueprint and the MTP/SCS are discussed further in Regional Regulatory Background Section 1.2.3 below.

Mobile Source Reductions (Pavley) (AB 1493)

AB 1493 required CARB to adopt regulations by January 1, 2005, to reduce GHG emissions from non-commercial passenger vehicles and light-duty trucks of model years 2009 through 2016. The bill required the California Climate Action Registry to develop and adopt protocols for the reporting and certification of GHG emissions reductions from mobile sources for use by CARB in granting emission reduction credits. The bill authorizes CARB to grant emission reduction credits for reductions of GHG emissions prior to the date of the enforcement of regulations, using model year 2000 as the baseline for reduction.

In 2004, CARB applied to the USEPA for a waiver under the federal Clean Air Act to authorize implementation of these regulations. The waiver request was formally denied by the USEPA in December 2007 after California filed suit to prompt federal action. In January 2008, the State Attorney General filed a new lawsuit against the USEPA for denying California's request for a waiver to regulate and limit GHG emissions from these vehicles. In January 2009, President Obama issued a directive to the USEPA to reconsider California's request for a waiver. On June 30, 2009, the USEPA granted the waiver to California for its GHG emission standards for motor vehicles. As part of this waiver, the USEPA specified the following provision: CARB may not hold a manufacturer liable or responsible for any non-compliance caused by emission debits generated by a manufacturer for the 2009 model year.

Low Carbon Fuel Standard

Executive Order S-1-07, as issued by Governor Schwarzenegger, called for a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California by 2020.[11] In response, CARB approved the LCFS regulations in 2009, which became fully effective in April 2010. In September 2015, CARB re-adopted the LCFS regulations following the resolution of a lawsuit.

In January 2019, CARB adopted amendments to the LCFS regulation to support the objectives of the 2017 Scoping Plan in achieving the statewide GHG target of 40 percent below 1990 levels by 2030. The amended regulation targeted a 20 percent reduction in fuel

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[9] CARB. 2019. SB 375 Regional Plan Climate Targets. Available at: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: March 2020. If SACOG is not able to secure the funding and commitments to implement their proposed pilot project, CARB staff would evaluate the SCS performance against an 18 percent target.

[10] SACOG. 2016. Metropolitan Transportation Plan/Sustainable Communities Strategy. February. Available at: https://www.sacog.org/metropolitan-transportation-plansustainable-communities-strategy. Accessed: March 2020.

[11] Carbon intensity is a measure of the GHG emissions associated with the various production, distribution and use steps in the "lifecycle" of a transportation fuel.

carbon intensity from a 2010 baseline by 2030. Specifically, it strengthened the carbon intensity benchmarks for gasoline, diesel, and jet fuel substitutes from 2019 to 2030, and added new credit generating fuels and vehicle categories to incentivize further reductions, including alternative jet fuels.[12] The LCFS would reduce GHG emissions by reducing the carbon intensity of transportation fuels used in California by at least 10% by 2020 and, as most recently amended in 2018, by at least 20% by 2030.

Clean Cars

In January 2012, CARB approved the Advanced Clean Cars Program, which established an emissions control program for cars and light-duty trucks (such as SUVs, pickup trucks, and minivans) of model years 2017-2025. When the program is fully implemented, new vehicles will emit 75% less smog-forming pollutants than the average new car sold today, and GHG emissions will be reduced by nearly 35%. The program also requires car manufacturers to offer for sale an increasing number of zero-emission vehicles (ZEVs) each year, including battery electric and fuel cell vehicles.

In December 2012, CARB adopted regulations allowing car manufacturers to comply with California's GHG emissions requirements for model years 2017-2025 through compliance with the USEPA GHG requirements for those same model years.[13]

1.2.2.8 CEQA Guidelines Amendments

2009 CEQA Guidelines Amendments (SB 97)

The 2009 CEQA Guidelines amendments adopted pursuant to SB 97 state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines amendments note that an agency may identify emissions either by selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards."[14] Section 15064.4(b) provides that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment:

- The extent a project may increase or reduce GHG emissions as compared to the environmental setting.
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- The extent to which the project complies with regulations or requirements adopted to implement a state-wide, regional, or local plan for the reduction or mitigation of GHG emissions.[15]

[12] CARB. 2019. Low Carbon Fuel Standard. Available at: https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard. Accessed: March 2020.

[13] CARB. 2012. Lev III and ZEV Regulation Amendments For Federal Compliance Option. December. Available at: https://ww3.arb.ca.gov/regact/2012/leviiidtc12/leviiidtc12.htm. Accessed: March 2020.

[14] CNRA. 2009. Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of GHG Emissions Pursuant to SB97. Available at: https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/Final_Statement_of_Reasons.pdf. Accessed: March 2020.

[15] CNRA. 2009. Revised Text of Proposed Guideline Amendments. Sacramento, CA. Available at: https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/Adopted_and_Transmitted_Text_of_SB97_CEQA_Guidelines_Amendments.pdf. Accessed: March 2020.

In addition, Section 15064.7(c) of the CEQA Guidelines amendments specifies "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence"[16]. Similarly, the revision to Appendix G, Environmental Checklist Form, which is often used as a basis for lead agencies' selection of significance thresholds, does not prescribe specific thresholds. Rather, Appendix G asks whether the project would:

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

This indicates that the determination of what is a significant effect on the environment should be left to the lead agency.

Accordingly, the CEQA Guidelines amendments do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Amendments emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA.

The CEQA Guidelines amendments indicate that lead agencies should consider all feasible means, supported by substantial evidence and subject to monitoring and reporting, of mitigating the significant effects of GHG emissions. These potential mitigation measures, set forth in Section 15126.4(c), may include (1) measures in an existing plan or mitigation program for the reduction of GHG emissions that are required as part of the lead agency's decision; (2) reductions in GHG emissions resulting from a project through implementation of project design features; (3) off-site measures, including offsets, to mitigate a project's emissions; and (4) carbon sequestration measures.[17]

Among other things, the California Natural Resources Agency (CNRA) noted in its Public Notice for these changes that impacts of GHG emissions should focus on the cumulative impact on climate change. The Public Notice states:

> While the Proposed Amendments do not foreclose the possibility that a single project may result in GHG emissions with a direct impact on the environment, the evidence before [CNRA] indicates that in most cases, the impact will be cumulative. Therefore, the Proposed Amendments emphasize that the analysis of GHG emissions should center on whether a project's incremental contribution of GHG emissions is cumulatively considerable.[18]

Thus, the CEQA Guidelines amendments continue to make clear that the significance of GHG emissions is most appropriately considered on a cumulative level.

[16] Ibid.

[17] Ibid.

[18] CNRA. 2009. Notice of Public Hearings and Notice of Proposed Amendment of Regulations Implementing the California Environmental Quality Act. Available at: https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/Notice_of_Proposed_Action.pdf. Accessed: March 2020.

As described in the Final Statement of Reasoning[19] for the 2009 CEQA Guidelines amendments, the CEQA Guidelines specifically do not address lifecycle emission for two reasons. First, there are different interpretations of the meaning of "lifecycle" amongst lead agencies, which could lead to confusion on how to evaluate the contribution of lifecycle emissions to a project. Furthermore, requiring an analysis of lifecycle emissions may be inconsistent with CEQA, as the emissions may be outside the scope of the "indirect emissions" that are evaluated with a project.

2018 CEQA Guidelines Amendments

In late 2018, the CNRA finalized amendments to the CEQA Guidelines including changes to CEQA Guidelines section 15064.4, which addresses the analysis of GHG emissions. The amendments became effective on December 28, 2018, and clarified several points, including the following:[20]

- Lead agencies must analyze the GHG emissions of proposed projects. (See CEQA Guidelines, § 15064.4, subd. (a).)
- The focus of the lead agency's analysis should be on the project's incremental contribution to climate change, rather than simply focusing on the quantity of emissions and how that quantity of emissions compares to statewide or global emissions. (See CEQA Guidelines, § 15064.4, subd. (b).)
- The impacts analysis of GHG emissions is global in nature and thus should be considered in a broader context. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national, or global emissions. (See CEQA Guidelines, § 15064.4, subd. (b).)
- Lead agencies should consider a timeframe for the analysis that is appropriate for the project. (See CEQA Guidelines, § 15064.4, subd. (b).)
- A lead agency's analysis must reasonably reflect evolving scientific knowledge and state regulatory schemes. (See CEQA Guidelines, § 15064.4, subd. (b).)
- Lead agencies may rely on plans prepared pursuant to section 15183.5 (Plans for the Reduction of Greenhouse Gases) in evaluating a project's GHG emissions. (See CEQA Guidelines, § 15064.4, subd. (b)(3).)
- In determining the significance of a project's impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is consistent with those plans, goals, or strategies. (See CEQA Guidelines, § 15064.4, subd. (b)(3).)
- The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's

[19] CNRA. 2009. Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of GHG Emissions Pursuant to SB97. Available at: https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/Final_Statement_of_Reasons.pdf. Accessed: March 2020.

[20] OPR. 2019. CEQA and Climate Change. Available at: http://opr.ca.gov/ceqa/climate-change.html. Accessed: March 2020.

incremental contribution to climate change. (See CEQA Guidelines, § 15064.4, subd. (c).) [21]

1.2.2.9 Senate Bill 743 (Transit Oriented Infill Projects)

Public Resources Code Section 21099(c)(1), as codified through enactment of SB 743, was enacted with the intent to change the focus of transportation analyses conducted under CEQA. SB 743 reflects a legislative policy to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHG emissions. SB 743 requires OPR to establish "alternative metrics to the metrics used for traffic levels of service for transportation impacts outside transit priority areas." [22] Under SB 743, the new metrics or significance criteria must promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. SB 743 dictates that once the CEQA Guidelines are amended to include new thresholds, automobile delay, as described by level of service or similar measures of vehicular capacity or congestion, shall no longer be considered a significant impact under CEQA in all locations in which the new thresholds are applied. The Legislature gave OPR the option of applying the new thresholds only to transit priority areas, or more broadly to areas throughout the State. OPR proposed to apply the new thresholds throughout the State.

In January 2016, OPR issued its *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA* (Revised SB 743 Proposal). Included in the Revised SB 743 Proposal were proposed new CEQA Guidelines Section 15064.3 and related revisions to Appendix G. Under the proposed new Guidelines, the analysis of transportation impacts in the CEQA context would shift from a levels of service metric to a vehicle miles traveled (VMT) metric. In proposing the new approach, OPR noted the relationship between VMT and GHG emissions.

A VMT metric was adopted as part of the 2018 CEQA Guidelines Amendments (described above), which became effective on December 28, 2018. As described in the Final Statement of Reasoning[23] for the 2018 CEQA Guidelines amendments: "The current emphasis on traffic congestion in transportation analyses tends to promote increased vehicle use. This new guidance instead focuses on a project's effect on vehicle miles traveled, which should promote project designs that reduce reliance on automobile travel."

1.2.2.10 Building Energy Efficiency Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6, of the California Code of Regulations, were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to incorporate new energy efficiency technologies and methods for building features such as space conditioning, water heating, lighting, and whole envelope.

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[21] Ibid.

[22] California Legislative Information. 2013. SB-743 Environmental quality: transit oriented infill projects, judicial review streamlining for environmental leadership development projects, and entertainment and sports center in the City of Sacramento. Available at: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB743. Accessed: March 2020.

[23] CNRA. 2018. Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines. Available at: https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf . Accessed: March 2020.

The 2005, 2008, and 2013 updates to the efficiency standards included provisions such as cool roofs on commercial buildings, increased use of skylights, and higher-efficiency lighting, heating, ventilation, and air conditioning (HVAC), and water heating systems. Additionally, some standards focus on broader concepts such as reducing electricity loads at peak periods and seasons and improving the quality of energy-saving installations. Past updates to the Title 24 standards have proved very effective in reducing building energy use, with the 2013 update estimated to reduce energy consumption in residential buildings by 25% and energy consumption in commercial buildings by 30%, relative to the 2008 standards.[24] The California Energy Commission (CEC) recently adopted another update in 2019, which will become effective on January 1, 2020.[25] The 2019 updates include a requirement for solar photovoltaic systems for new homes, requirements for newly constructed healthcare facilities, additional high-efficiency lighting requirements, high-performance attic and walls, higher-efficiency water and space heaters, and high-efficiency air filters. Relative to the 2016 standards, the 2019 standards are expected to reduce high-rise residential and non-residential electricity consumption by approximately 10.7% and natural gas consumption by 1%, and require new low-rise residential buildings to achieve zero net electricity consumption using a combination of building efficiency and on-site renewable electricity generation.[26]

In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CalGreen Building Standard (CalGreen), and establishes voluntary and mandatory standards pertaining to the planning and design of sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality. Like Part 6 of Title 24, the CalGreen standards are periodically updated, with increasing energy savings and efficiencies associated with each code update.

1.2.2.11 Zero Emission Vehicles

Zero emission vehicles (ZEVs) include hydrogen fuel cell electric vehicles and battery-electric vehicles with no tailpipe emissions.

In its 2014 First Update to the Climate Change Scoping Plan, CARB recognized that the light-duty vehicle fleet "will need to become largely electrified by 2050 in order to meet California's emission reduction goals."[27] Accordingly, CARB's Advanced Clean Cars (ACC) program requires about 15 percent of new cars sold in California in 2025 to be a plug-in hybrid, battery electric, or fuel cell vehicles.[28]

Two Executive Orders established milestones to encourage statewide ZEV usage. In 2012, Governor Brown issued EO B-16-12, which calls for the increased penetration of ZEVs into

[24] CEC. 2012. Energy Commission Approves More Efficient Buildings for California's Future. Available online at: https://energyarchive.ca.gov/releases/2012_releases/2012-05-31_energy_commission_approves_more_efficient_buildings_nr.html. Accessed: March 2020.

[25] CEC. 2019. California's Energy Efficiency Standards for Residential and Nonresidential Buildings. Available online at: https://www.energy.ca.gov/title24/2019standards. Accessed: March 2020.

[26] CEC. 2018. 2019 Title 24 Impact Analysis. June. Available at: https://energyarchive.ca.gov/title24/2019standards/post_adoption/documents/2019_Impact_Analysis_Final_Report_2018-06-29.pdf. Accessed: June 2020.

[27] CARB. 2014. First Update to the Climate Change Scoping Plan: Building on the Framework. May. p. 48.

[28] Id. at p. 47.

California's vehicle fleet to help California achieve transportation sector GHG emissions reductions of 80 percent below 1990 levels by 2050. In support of this target, the EO also calls upon CARB, the CEC and the California Public Utilities Commission to establish benchmarks that will: (1) allow over 1.5 million ZEVs to be on California roadways by 2025, and (2) provide the State's residents with easy access to ZEV infrastructure.

EO B-16-12 specifically directed California to "encourage the development and success of zero-emission vehicles to protect the environment, stimulate economic growth, and improve the quality of life in the state."[29] In January 2018, Governor Brown issued EO B-48-18 to "boost the supply of zero-emission vehicles and charging and refueling stations in California."[30] These Executive Orders established several milestones organized into four time periods:

By 2015:

- The State's major metropolitan areas will be able to accommodate zero-emission vehicles, each with infrastructure plans and streamlined permitting;
- The State's manufacturing sector will be expanding zero-emission vehicle and component manufacturing;
- The private sector's investment in zero-emission vehicle infrastructure will be growing; and
- The State's academic and research institutions will be contributing to zero-emission vehicle research, innovation, and education.

By 2020:

- The State's zero-emission vehicle infrastructure will be able to support up to one million vehicles;
- The costs of zero-emission vehicles will be competitive with conventional combustion vehicles;
- Zero-emission vehicles will be accessible to mainstream consumers;
- There will be widespread use of zero-emission vehicles for public transportation and freight transport;
- Transportation sector greenhouse gas emissions will be falling as a result of the switch to zero-emission vehicles;
- Electric vehicle charging will be integrated into the electricity grid; and
- The private sector's role in the supply chain for zero-emission vehicle component development and manufacturing State will be expanding.

By 2025:

[29] Executive Order B-16-2012. March 2012. Available at: https://www.ca.gov/archive/gov39/2012/03/23/news17472/index.html. Accessed: March 2020.

[30] Executive Order B-48-2018. January 2018. Available at: http://opr.ca.gov/planning/transportation/zev.html. Accessed: March 2020.

- Over 1.5 million zero-emission vehicles will be on California roads and their market share will be expanding;
- Californians will have easy access to zero-emission vehicle infrastructure; and
- California's clean, efficient vehicles will annually displace at least 1.5 billion gallons of petroleum fuels.

By 2030:

- 5 million zero-emission vehicles will be on California roadways.

In furtherance of those goals, in February 2013, the Governor's Interagency Working Group on Zero-emission Vehicles issued the *2013 ZEV Action Plan: A roadmap toward 1.5 million zero-emission vehicles on California* roadways *by 2025*.[31] The 2013 ZEV Action Plan identifies four broad goals for state government to advance ZEVs: 1) Complete needed infrastructure and planning; 2) Expand consumer awareness and demand; 3) Transform fleets; and 4) Grow jobs and investment in the private sector. As part of these goals, some highlighted strategies and actions include: i) supporting ZEV infrastructure planning and investment by private entities; ii) enabling universal access to ZEV infrastructure for California drivers; iii) reducing upfront purchase costs for ZEVs; iv) promoting consumer awareness of ZEVs; and v) helping to expand ZEVs in bus fleets. The Action Plan discusses the challenges of ZEV expansion, which include the need to enable electric vehicle chargers in homes, increase consumer awareness, address up-front costs and operational limitations, and address that ZEVs are not commercially available for all categories of vehicles.

In October 2016, the Governor's Interagency Working Group on Zero-emission Vehicles issued the *2016 ZEV Action Plan: A roadmap toward 1.5 million zero-emission vehicles on California* roadways *by 2025*.[32] This report provides an update on progress toward achieving the 2013 goals and highlights the following four top priorities for the upcoming years: 1) Raise consumer awareness and education about ZEVs; 2) Ensure ZEVs are accessible to a broad range of Californians; 3) Make ZEV technologies commercially viable in targeted applications in the medium-duty, heavy-duty, and freight sectors; and 4) Aid ZEV market growth beyond California. The broad goals to advance ZEV adoption are: i) Achieve mainstream consumer awareness of ZEV options and benefits; ii) Make ZEVs an affordable and attractive option for drivers; iii) Ensure convenient charging and fueling infrastructure for greatly expanded use of ZEVs; iv) Maximize economic and job opportunities from ZEV technologies; v) Bolster ZEV market growth outside of California; and vi) Lead by example by integrating ZEVs into state government. The goals and strategies proposed in the 2013 Action Plan will continue to be implemented. Additional strategies are proposed to help achieve the new goals, including setting targets to increase home charging stations in multi-unit dwellings and disadvantaged communities and for public transit and school bus electrification. The 2016 Action Plan describes challenges toward achieving the 2025 goal of 1.5 million ZEVs in California, such as that most consumers are still not aware of the benefits of passenger ZEVs and that over 1,000,000 charge points will be needed at homes,

[31] Governor's Interagency Working Group on Zero-emission Vehicles. 2013. Available at: http://opr.ca.gov/docs/Governors_Office_ZEV_Action_Plan_(02-13).pdf. Accessed: March 2020.

[32] Governor's Interagency Working Group on Zero-emission Vehicles. 2016. 2016 ZEV Action Plan. Available at: https://www.ca.gov/archive/gov39/wp-content/uploads/2018/01/2016_ZEV_Action_Plan-1.pdf. Accessed: March 2020.

workplaces, and public locations but only 11,000 non-home charge points are installed as stated in the 2016 ZEV Action Plan.

In January 2018, Governor Brown signed EO B-48-18 issuing a "Priorities Update": An update to the 2016 Zero-Emission Vehicle Action Plan to help expand private investment to the zero-emission vehicle infrastructure, particularly in the low income and disadvantaged communities. The initiative is focused on deploying charging and fueling infrastructure through multi-stakeholder efforts, thus increasing both ownership and operations of ZEVs. The 2018 Priorities Update focuses specifically on state agency actions and is designed to serve three fundamental purposes: 1) Provide direction to state agencies on the most important actions to be executed in 2018 to enable the progress toward the 2025 targets and 2030 vision; 2) Give stakeholders transparency into the actions state agencies plan to take (or are taking) this year to further the ZEV market; and 3) Create a platform for stakeholder engagement, feedback, and collaboration.[33]

California is incentivizing the purchase of ZEVs through implementation of the Clean Vehicle Rebate Project (CVRP), which is administered by a non-profit organization (The Center for Sustainable Energy) for CARB and currently subsidizes the purchase of passenger near-zero and zero emission vehicles as follows:

- Hydrogen Fuel Cell Electric Vehicles: $5,000
- Battery Electric Vehicles: $2,500
- Plug-In Hybrid Electric Vehicles: $1,500
- Neighborhood Electric Vehicles and Zero Emission Motorcycles: $900

In July 2017, CARB approved the first of Volkswagen's (VW) four 30-month ZEV Investment Plans (Plan).[34] This Plan is required by California's partial settlement for $800 million with VW resulting from the automaker's use of illegal defeat devices in its 2.0-liter diesel cars sold in the state from model years 2009 to 2015. The Plan describes how VW proposes to spend the first $200 million in California on ZEV charging infrastructure (including the development and maintenance of ZEV charging stations), public awareness, increasing ZEV access, and a green city demonstration. In December 2018, CARB approved VW-subsidiary Electrify America's Cycle 2 California ZEV Investment Plan, which continues to support the goals established in the first funding cycle but adds in new metropolitan and regional charging corridors. It also expands investments for charging stations to support ZEV bus fleets, ride-hail services, and autonomous vehicle charging.[35]

Many other statewide and regional initiatives are helping spur ZEV uptake.

Senate Bill 391 (California Transportation Plan)

SB 391 requires that Caltrans updates the California Transportation Plan by December 31, 2015, and every five years thereafter, accounting for a wide variety of measures, including

[33] Governor's Interagency Working Group on Zero-emission Vehicles. 2018. 2018 ZEV Action Plan Priorities Update. Available at: https://static.business.ca.gov/wp-content/uploads/2019/12/2018-ZEV-Action-Plan-Priorities-Update.pdf. Accessed: March 2020.

[34] VOLKSWAGEN, Group of America. 2017. California ZEV Investment Plan: Cycle 1. March. Available at: https://www.arb.ca.gov/msprog/vw_info/vsi/vw-zevinvest/documents/vwinvestplan1_031317.pdf. Accessed: March 2020.

[35] Electrify America. 2018. California ZEV Investment Plan: Cycle 2. October. Available at: https://ww2.arb.ca.gov/resources/documents/zev-investment-plans. Accessed: June 2020.

the use of alternative fuels, new vehicle technology, tailpipe emissions reductions, and the expansion of public transit, bicycling, and walking. The California Transportation Plan was updated in 2015.[36]

1.2.2.12 Other State GHG Regulatory Activities

Executive Order S-13-08 (Climate Adaptation Strategy)

On November 14, 2008, Governor Arnold Schwarzenegger signed Executive Order S-13-08, which called on State agencies to develop a strategy for identification of and preparation for expected climate change impacts in California. The resulting *2009 California Climate Adaptation Strategy* report was developed by the CNRA in coordination with the Climate Action Team (CAT). The report presents the best available science relevant to climate impacts in California and proposes a set of recommendations for decision-makers to assess vulnerability and promote resiliency to reduce California's vulnerability to climate change. Guidance regarding adaptation strategies is general in nature and emphasizes incorporation of strategies into existing planning policies and processes. The report has since been updated in 2014 and 2018 and is now known as the Safeguarding California Plan, which is a roadmap for the state's programmatic and policy actions to achieve an integrated climate change adaptation strategy.[37]

Other Regulations or Policies

<u>Senate Bill X7 7 (Water Conservation Act of 2009)</u>

The Water Conservation Act of 2009 sets an overall goal of reducing per-capita urban water use by 20% by December 31, 2020. The state is required to make incremental progress toward this goal by reducing per-capita water use by at least 10% by December 31, 2015. Reduction in water consumption directly reduces the necessary energy and the associated emissions to convey, treat, distribute, and eventually treat the water.

<u>California Integrated Waste Management Act</u>

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 (Public Resources Code Sections 40000 et seq.) to include a provision declaring that it is the policy goal of the state that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter.[38] In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the State's policy goal.[39] CalRecycle conducted several stakeholder workshops and published a discussion document in May 2012 titled California's New Goal: 75 Percent Recycling, which identifies concepts that CalRecycle believes would assist the state in reaching the 75 percent goal by 2020.[40]

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[36] California Department of Transportation. California Transportation Plan 2040. Available at: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/finalctp2040-report-webready.pdf. Accessed: March 2020.

[37] CNRA. 2019. Safeguarding California and Climate Change Adaptation Policy. Available at: https://resources.ca.gov/CNRALegacyFiles/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf. Accessed: March 2020.

[38] Cal. Pub. Res. Code § 41780.01(a).

[39] Cal. Pub. Res. Code § 41780.02.

[40] CalRecycle. 2018. California's 75 Percent Initiative Defining the Future. Available at: https://www.calrecycle.ca.gov/75percent. Accessed: March 2020.

AB 1826 (2014) further amended the California Integrated Waste Management Act of 1989 to require commercial businesses to recycle organic waste, which includes food waste and green waste, with phased-in requirements based on the volume of waste generated. It also required local jurisdictions to adopt an organic waste recycling program.

In March 2017, CARB released its Short-Lived Climate Pollution Reduction Strategy which included a provision for CalRecycle to develop regulations to reduce statewide organic waste disposal by 50% of 2014 levels by 2020 and 75% of 2014 levels by 2025. These regulations will take effect on or after January 1, 2022.[41]

1.2.2.13 Court Rulings

Several recent court rulings affect the derivation and applicability of GHG thresholds for CEQA. These are summarized below.

Newhall Ranch: Center for Biological Diversity v. Department of Fish and Wildlife, 62 Cal. 4th 204 (2016)

In the Newhall Ranch decision, the California Supreme Court recognized that an individual project's emissions alone will most likely not have any appreciable impact on global GHG emissions, but an individual project will contribute to the significant cumulative impact caused by GHG emissions from other sources around the globe. The question therefore becomes whether the project's incremental addition of GHGs is cumulatively considerable in light of the global problem, and thus significant. The Court acknowledged that the fact that emissions are global rather than local gives rise to an argument that a certain amount of GHG emissions "is as inevitable as population growth." The Court stated, "Under this view, a significance criterion framed in terms of efficiency is superior to a simple numerical threshold because CEQA is not intended as a population control measure."

Golden Door: Golden Door Properties, LLC v. County of San Diego/Sierra Club, LLC v. County of San Diego, Cal. App. 5th (2018)

In the Golden Door decision, the Court ruled that San Diego County's 2016 Guidance Document for analyzing GHG impacts violated CEQA because it was not adopted by ordinance, resolution, rule, or regulation, or through a public review process. The Court further ruled that the Guidance Document's GHG efficiency metric of 4.9 metric tons of CO_2e per service population per year was not supported by substantial evidence that explained why use of statewide GHG reduction levels was appropriate for all projects in San Diego County.

Together, the Newhall Ranch and Golden Door court decisions suggest that data used to support thresholds should be local, and the applicability of one threshold to all land use types or emission sectors may not be appropriate.

1.2.3 Regional

1.2.3.1 Sacramento Region Blueprint

SACOG adopted the Sacramento Blueprint in 2004 as a smart growth vision for the region. The Blueprint integrates land use and transportation planning in an effort to reduce sprawl, vehicle emissions, and traffic congestion by incorporating smart growth principles that

[41] CARB. 2017. Short-Lived Climate Pollutant Reduction Strategy. March. Available online at: https://ww2.arb.ca.gov/sites/default/files/2018-12/final_slcp_report%20Final%202017.pdf. Accessed: March 2020.

encourage housing options closer to centers of employment, shopping, and recreation hubs. The key planning principles of the Blueprint include: transportation choice, compact development, mixed use development, housing choice and diversity, use of existing assets, natural resource conservation, and quality design.[42] The Blueprint establishes 2050 targets including percent distribution of housing types (rural residential, large-lot single family, small-lot single family, attached homes); percent distribution of new housing vs. new jobs; square miles of new land for urban uses; and square miles of agricultural land to be converted to urban and public-use open space. The Blueprint conceptual map and growth principles are updated regularly to include new information, no less frequently than the update cycle for the MTP/SCS.[43]

1.2.3.2 Sacramento Metropolitan Transportation Plan/Sustainable Communities Strategy

The Sacramento Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) supports the Sacramento Region Blueprint and links land use, air quality, and transportation needs. As the state and federally designated MPO for the region, SACOG is responsible for developing the MTP/SCS in coordination with Sacramento, Yolo, Yuba, Sutter, El Dorado, and Placer counties. The MTP/SCS includes a long-range regional transportation plan covering a 20-year planning horizon (the MTP component), as well as policies and strategies to reduce GHG emissions from passenger vehicles based on targets set by CARB (the SCS component) pursuant to SB 375.[44] In 2018, CARB set SACOG's GHG emissions reduction targets to 7% for 2020 and 19% for 2035.[45]

The most recent version of the MTP/SCS was adopted in November 2019 and covers the period from 2020 to 2040. The 2020 MTP/SCS is a multimodal transportation plan that is required to be financially feasible, achieve health standards for clean air, and address statewide climate goals. It is guided by four priority policy areas: build vibrant places for today's and tomorrow's residents; foster the next generation of mobility solutions; modernize the way we pay for transportation infrastructure; and build and maintain a safe, reliable, and multimodal transportation system. The MTP/SCS includes a regional growth forecast and projected land use pattern (residential and employment) to accommodate estimated increases in population, employment, and housing. It also reports on historical VMT data, observed VMT trends, and forecasted VMT through 2040.[46] Data from the 2020 MTP/SCS is used to establish Sacramento County's share of future transportation emissions for new developments, as described later in this report.

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[42] SACOG. Sacramento Region Blueprint. Available online at: https://www.sacog.org/sacramento-region-blueprint. Accessed: March 2020.

[43] SACOG. 2007. Special Report: Preferred Blueprint Alternative, Sacramento Region Blueprint Transportation Land Use Study. June. Available online at: https://www.sacog.org/sites/main/files/file-attachments/special_reportbp_insert_jan_2005.pdf. Accessed: March 2020.

[44] SACOG. Metropolitan Transportation Plan/Sustainable Communities Strategy. Available online at: https://www.sacog.org/metropolitan-transportation-plansustainable-communities-strategy. Accessed: March 2020.

[45] CARB. 2019. SB 375 Regional Plan Climate Targets. Available at: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: March 2020.

[46] SACOG. 2019. Metropolitan Transportation Plan/Sustainable Communities Strategy, November 2019. Available online at: https://www.sacog.org/2020-metropolitan-transportation-plansustainable-communities-strategy-update. Accessed: March 2020.

1.2.4 Local

1.2.4.1 County of Sacramento Climate Action Plan

The County of Sacramento adopted its Government Operations CAP in 2012, which addresses GHG emissions from the County's operations including County-owned facilities, vehicles, equipment, and employee commute. It identified an action plan to reduce County government GHG emissions to a level 15% below baseline 2005 levels by 2020.[47]

The County is currently developing a Communitywide Greenhouse Gas Reduction and Climate Change Adaptation Plan (Communitywide CAP), which will update the government operations GHG inventory and CAP measures, update the unincorporated County's GHG inventory and forecasts, identify GHG reduction targets for 2020, and propose measures to achieve the required GHG reductions for the entire County. It will also conduct a climate change vulnerability assessment and develop an adaptation strategy. So far, a memorandum documenting the existing and projected Business-as-Usual emissions inventories has been released.[48]

1.2.4.2 City Climate Action and GHG Reduction Plans

In 2011, the City of Citrus Heights adopted its Greenhouse Gas Reduction Plan with a GHG reduction target of 10-15% below 2005 baseline emission levels by 2020.[49]

In 2012, the City of Sacramento adopted its Climate Action Plan, and in 2015 it was incorporated into the City's 2035 General Plan. The CAP/2035 General Plan identified how City operations as well as the broader community could reduce GHG emissions to achieve 22% and 15% reductions below 2005 baseline levels by 2020 for municipal and community emissions, respectively. It also set longer-term reduction targets of 49% by 2035 and 83% by 2050.[50] In 2016, the City of Sacramento updated its Climate Action Plan for Internal Operations. The plan documented the City's attainment of a 24% GHG emissions reduction from municipal operations from 2005 to 2013, thus exceeding the adopted CAP/2035 General Plan target of 22% reduction by 2020. The 2016 update set a new target to achieve 33% reduction by 2020.[51] The City is currently developing the 2040 General Plan, which will include an ambitious update to the Climate Action Plan with the goal of establishing Sacramento as a climate leader.[52]

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[47] Sacramento County. 2012. Climate Action Plan: County Government Operations. June. Available online at: https://planning.saccounty.net/PlansandProjectsIn-Progress/Documents/Climate%20Action%20Plan/Government%20Operations%20CAP.pdf. Accessed: March 2020.

[48] Sacramento County. 2019. Planning and Environmental Review: Communitywide Greenhouse Gas Reduction and Climate Change Adaptation (Communitywide CAP) Project. Available online at: https://planning.saccounty.net/PlansandProjectsIn-Progress/Pages/CAP.aspx. Accessed: March 2020.

[49] City of Citrus Heights. 2011. Greenhouse Gas Reduction Plan. August. Available online at: https://www.citrusheights.net/203/Greenhouse-Gas-Reduction-Plan. Accessed: March 2020.

[50] City of Sacramento. 2015. Sacramento Climate Action Plan and 2035 General Plan. March. Available online at: https://www.cityofsacramento.org/Community-Development/Resources/Online-Library/Sustainability. Accessed: March 2020.

[51] City of Sacramento. 2016. Climate Action Plan for Internal Operations. June. Available online at: https://www.cityofsacramento.org/Public-Works/Facilities/Sustainability/Climate-Action-Plan-for-Internal-Operations. Accessed: March 2020.

[52] City of Sacramento. 2018. 2040 General Plan Update. Available online at: http://www.cityofsacramento.org/Community-Development/Planning/Major-Projects/General-Plan. Accessed: March 2020.

In 2018, as part of its 2035 General Plan, the City of Folsom set GHG reduction targets of 15%, 40%, 51%, and 80% below 2005 baseline levels by 2020, 2030, 2040, and 2050, respectively.[53]

In 2019, the City of Elk Grove updated its CAP as part of its General Plan. The updated CAP set per capita emissions targets of 7.6 $MTCO_2e$ per capita by 2020, 4.1 MT CO_2e per capita by 2030, and 1.4 MT CO_2e per capita by 2050.[54]

The City of Galt's CAP was adopted in March 2020.[55] The cities of Rancho Cordova and Isleton have not yet developed CAPs.

The State CEQA Guidelines describe the technical and procedural conditions needed to be a Qualified CAP.

1.2.4.3 The Mayor's Commission on Climate Change

In 2018, Mayor Darrell Steinberg of Sacramento and Mayor Christopher Cabaldon of West Sacramento[56] established the Mayors' Commission on Climate Change. The Commission aims to develop a common vision and strategies for both cities to achieve net zero greenhouse gas emissions, referred to as Carbon Zero, by 2045. Specifically, the Commission's objectives are to: (1) establish goals and priority areas of action to achieve Carbon Zero by 2045, (2) strengthen local and regional partnerships to address climate change and increase resiliency, (3) engage community members and business leaders to build political support for robust climate action, (4) provide a forum to develop and vet the guiding principles of ambitious strategies within the City of Sacramento and West Sacramento's Climate Action Plans, (5) advance social equity and economic prosperity, and (6) attract additional investments into the region.[57]

Key focus sectors include the built environment, mobility, and community health and resiliency. The Commission will issue a Final Recommendations Report that highlights priority strategies to achieve Carbon Zero to inform future updates to the cities' Climate Action Plans. Current adopted strategies for the built environment include mandating new construction to be all-electric to eliminate fossil fuel use in new buildings by 2023, transitioning 25% of existing residential and small commercial buildings to all-electric by 2030, and supporting infill to ensure that 90% of growth is in the established and center/corridor communities and 90% small-lot and attached homes by 2040, consistent with the regional MTP/SCS.[58] The Climate Commission's adopted mobility strategies are to expand and enhance accessibility to low-stress connected infrastructure for walking and

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[53] City of Folsom. 2018. 2035 General Plan. August. Available online at: https://www.folsom.ca.us/community/planning/general_plan/2035_general_plan.asp. Accessed: March 2020.

[54] City of Elk Grove. 2019. Climate Action Plan: 2019 Update. February. Available online at: http://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Planning/Projects/General%20Plan/GPU/Adopted_2019-02/ElkGrove_CAP_Adopted_Clean.pdf. Accessed: March 2020.

[55] City of Galt. 2020. City of Galt Climate Action Plan. February. Available online at: http://www.ci.galt.ca.us/city-departments/community-development/planning/climate-action-plan-cap. Accessed: June 2020.

[56] The City of West Sacramento is part of Yolo County; however, it is part of the Greater Sacramento area and within SACOG's jurisdiction.

[57] The Mayor's Commission on Climate Change. Available online at: https://www.lgc.org/climatecommission/. Accessed: March 2020.

[58] The Mayor's Commission on Climate Change. 2019. Meeting #5: Built Environment Strategy Recommendations. October. Available online at: https://www.lgc.org/wordpress/wp-content/uploads/2019/10/2.-Built-Environment-Strategy-Recommendations.pdf. Accessed: March 2020.

rolling (e.g., bicycling), prioritizing improvements that address specific community and neighborhood concerns and needs, so that 30% of all trips are by active transportation by 2030 and 40% by 2045; expand and improve transit and shared mobility services to be more accessible, affordable, timely, and attractive than single-occupancy vehicle use, so that 30% of all trips are by transit and pooled share mobility by 2030 and 50% by 2045; and develop a comprehensive package of incentives, disincentives, and policies to encourage the adoption of ZEVs so that they make up 70% of new vehicle registrations by 2030 and achieve 100% electrification of all public, private, and shared fleets by 2045.[59] Draft strategies for the community health and resiliency sector are still under development as of the writing of this report.

[59] The Mayor's Commission on Climate Change. 2019. Meeting #5: Mobility Strategy Recommendations. Available online at: https://www.lgc.org/wordpress/wp-content/uploads/2019/10/3.-Mobility-Strategy-Recommendations.pdf. Accessed: March 2020.

2. OVERVIEW OF STRATEGY FOR THRESHOLD DEVELOPMENT

As described in Section 1, there is a need for substantiated GHG thresholds for purpose of CEQA that are consistent with achieving the portion of the State's targeted GHG emissions reductions specific to the quantities and sectors of emissions from Sacramento County. The thresholds developed in this document supplement the thresholds and modeling methodologies already available in the SMAQMD CEQA Guide and the SMAQMD Recommended Guidance for Land Use Emissions Reductions.[60,61] The overall modeling and reporting strategy for CEQA climate change sections will generally follow existing SMAQMD guidance, but with updates to default assumptions and significance thresholds as described in Sections 4 and 5. These thresholds are developed and applied in four steps, described in more detail below:

1. Determine Sacramento County's share of statewide 2030 GHG emissions by sector consistent with the CARB Scoping Plan (See Section 3).
2. Determine share of Sacramento County 2030 emissions from existing development vs new development (See Section 4).
3. Allocate 2030 GHG emissions from new development among land uses and place types to set numeric thresholds (See Section 4).
4. Set Best Management Practices by land use and place types that achieve numeric thresholds (See Section 5).

The land use types to which these thresholds apply include a range of residential and commercial uses. Examples of the land uses types that these thresholds are intended to cover include:[62]

- Residential
- Commercial
- Retail
- Educational
- Recreational
- Light industrial
- Mixed-Use

These thresholds are not intended to address projects from which the majority of emissions are not related to building energy or mobile vehicle traffic, or that relate to sectors not

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[60] SMAQMD. 2018. Chapter 6 Greenhouse Gas Emissions. Available online at: http://www.airquality.org/LandUseTransportation/Documents/Ch6GHG4-25-2020.pdf. Accessed: June 2020.

[61] SMAQMD. 2017. Recommended Guidance for Land Use Reductions. Available online at: http://www.airquality.org/LandUseTransportation/Documents/LandUseEmissionReductions4.1Final.pdf. Accessed: June 2020

[62] Definitions and land use subtypes for these categories are available in the CalEEMod® Users Guide, Table 1. 2017. Available at: http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4. Accessed: June 2020.

captured here. These thresholds are only intended to address GHG emissions and are not intended to address other regulatory considerations. Other sectors analyzed in the 2017 Scoping Plan include agriculture and industrial emissions. Projects in those sectors are relatively unique and should be evaluated on a case-by-case basis. This includes agriculture, industrial, transportation, infrastructure, stadiums, military bases, and hospitals. Projects such as hospitals should consult with SMAQMD to determine whether and how to apply these thresholds.

3. SACRAMENTO COUNTY GHG EMISSIONS IN 2030

The first step in threshold development requires the derivation of the GHG emissions in 2030 by sector in Sacramento County that would be needed to be consistent with the CARB Scoping Plan. First, the Scoping Plan assumptions are reviewed to determine the assumptions that are either geographically specific or specific to new developments as compared to existing developments. Next, the analysis determines the share and total amount of emissions in the Scoping Plan scenario that can reasonably be attributed to Sacramento County.

3.1 Scoping Plan Assumptions

The 2017 CARB Scoping Plan projects emissions by sector to achieve California's 2030 GHG target of 40 percent below 1990 levels. The Scoping Plan assumptions and assessments are just one potential set of modeling assumptions to achieve the State's targets; the targets could be achieved by other methods, policies, or technologies, but those used in the modeling are considered reasonable, and are used as the basis for these guidelines. The assumptions are detailed by Environment, Economics, and Energy (E3)'s PATHWAYS modeling outputs and described in more detail in the Scoping Plan Appendix D.[63] Assumptions by sector and their relationship to geographic locations and new and existing developments are summarized below. The analyzed sectors include building energy, water, mobile sources, waste, entities included under cap-and-trade and other sectors.

3.1.1 Building Energy (natural gas and electricity):

Scoping Plan assumptions: The Scoping Plan assumes that the SB 350 goal of doubling additional achievable energy efficiency by 2030 is met. This includes measures such as a 50% increase in energy efficiency for new appliances (appliances, water heating, space heating, lighting, cooking) compared to 2015, and small reductions in heating (3%), cooling (4.4%), and lighting (2%) loads due to behavior changes and better windows. The assumptions for this sector also assume achievement of 50% RPS by 2030, plus 18 gigawatts of behind-the-meter solar PV. The scenario does not assume any additional electrification or renewable natural gas.

Conclusion: Improvements in energy efficiency and renewables generation are not geographically specific, and the assumed improvements could be met through a variety of pathways. As described in Section 1.2.2, the Title 24 Building Energy Efficiency Standards have improved energy efficiency in new buildings with each triennial update cycle. The standards are required to be cost effective over the lifespan of a building.[64] The 2019 standards require low-rise residential buildings to generate on-site renewable electricity. Currently, the 2022 Title 24 standards update is underway, with an expected focus on nonresidential and multifamily buildings and decarbonization.[65] Therefore, new developments

[63] CARB. 2017. 2030 Scoping Plan Appendix D: PATHWAYS. Available at: https://ww3.arb.ca.gov/cc/scopingplan/2030sp_appd_pathways_final.pdf. Accessed: March 2020.

[64] CEC. 2019 Building Energy Efficiency Standards Frequently Asked Questions. Available at: https://ww2.energy.ca.gov/title24/2019standards/documents/Title24_2019_Standards_detailed_faq.pdf. Accessed: June 2020.

[65] California Energy Commission. 2019. April 24 Staff Workshop on Triennial California Energy Code Measure Proposal Template. Available at: https://efiling.energy.ca.gov/getdocument.aspx?tn=227863. Accessed: March 2020.

will include more efficient buildings and appliances than existing buildings and an increase in renewables generation due to code compliance and economic considerations.

3.1.2 Water

Scoping Plan assumptions: The Scoping Plan includes a 10% reduction in water heating demand due to urban water efficiency measures.

Conclusion: Reductions in water demand are overall not geographically specific (though total water consumption may vary by climate zone and land use type). Water reductions apply to both new and existing developments.

3.1.3 Mobile

Scoping Plan assumptions: The Scoping Plan scenario uses the CARB's "Clean Technologies and Fuels" VISION model scenario plus incorporates additional ZEVs, biofuels, and a reduction in light-duty VMT. The end result of the assumptions is equivalent to achieving all of the prior SB 375 SCS targets (as adopted prior to the Scoping Plan's analyses in 2016) plus an additional ~15% reduction in VMT per capita, as noted in CARB's January 2019 white paper. [66]

Conclusion: The SCS targets are geographically specific, but the 4 major MPOs all have similar targets (set 19% in 2035 for the SCS targets as adopted in 2018).[67] Therefore, it is reasonable to assume a similar per-capita reduction percentage is required for each region. Reductions for different place types within each region may be tailored to the region. Note that the SCS target percentages refer to reductions in light-duty vehicle GHG emissions compared to a 2005 baseline, so are not directly comparable to SB 743 targets or CARB's related supporting documentation, which are based on VMT reductions compared to 2015-2018 existing conditions.

The 2019 CARB white paper describes how per capita VMT reductions related to new projects as follows:

> "It is reasonable for new development to achieve a fair share of per capita VMT and GHG emissions reductions necessary to achieve statewide climate goals and to continue to work towards additional VMT and GHG emissions reductions through other measures. The remainder of this document presents quantitative information about the rate of per capita VMT reduction needed on a statewide average basis compared to existing conditions to achieve the State's long-term climate goals. This rate of per capita VMT reduction is scalable to a fair share reduction at the project level."

The ~15% VMT per capita reduction target from existing conditions described in CARB's 2019 white paper as consistent with the Scoping Plan is also consistent with SB 743 requirements for new developments' transportation analyses for CEQA purposes. As described further below, the thresholds developed here are based on CARB's analyses and

[66] CARB. 2019. California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals. January. Available at: https://ww2.arb.ca.gov/resources/documents/carb-2017-scoping-plan-identified-vmt-reductions-and-relationship-state-climate. Accessed: March 2020.

[67] CARB. 2019. SB 375 Regional Plan Climate Targets. Available at: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: March 2020. If SACOG is not able to secure the funding and commitments to implement their proposed pilot project, CARB staff would evaluate the SCS performance against an 18 percent target.

are meant to show consistency with the mobile emissions reductions needed to achieve the Scoping Plan target.

3.1.4 Waste

Scoping Plan assumptions: The Scoping Plan scenario includes a 14% reduction in waste emissions due to organic diversion of waste.

Conclusion: Reductions in waste emissions are not geographically specific as it applies to municipal solid waste. This reduction applies to both new and existing developments.

3.1.5 High-GWP Gases:

Scoping Plan assumptions: High-GWP gases include methane, hydrofluorocarbons (HFCs) and anthropogenic black carbon. The Scoping Plan scenario is generally consistent with the mitigation scenario in the Short-Lived Climate Pollutant (SLCP) Strategy per SB 1383, which mandates a 40 percent reduction in methane and HFC emissions by 2030 and a 50 percent reduction in anthropogenic emissions of black carbon by 2030.[68] Several components of non-energy GHGs are not evaluated here because they are associated with industrial or agricultural land uses. Black carbon is not evaluated here because it is not part of the State's GHG inventory that tracks progress toward the State's climate targets. [69] Emissions categories associated with residential and commercial land use types include solid waste disposal and a portion of refrigerant use (F-gases, HFCs). As described in Section 3.1.4, the Scoping Plan scenario includes a 14% reduction in waste emissions due to organic diversion of waste (on top of the reductions required by SB 1383 by 2020). In addition, the Scoping Plan scenario includes a 63% reduction in F-gases.

As described in the SLCP Strategy, "HFCs are synthetic gases used in refrigeration, air conditioning, insulating foams, solvents, aerosol products, and fire protection…The major concern with respect to HFCs is that their contribution to climate forcing is expected to increase rapidly in the future as they continue to replace ozone depleting substances (ODS), such that they will become very significant contributors." HFCs from transportation are expected to decrease due to the California and USEPA light-duty vehicle GHG emission standards.[70] Refrigerant HFC emissions are expected to decrease significantly due to State and International HFC phasedown agreements, but not enough to meet the 2030 reduction goal. Additional measures are being considered to further reduce emissions, with a menu of potential actions presented in the SLCP Strategy. The SLCP Strategy states, "Early action…can avoid locking-in the use of high-GWP refrigerants in new or retrofitted systems in the coming years. For example, as effective alternatives become available, ARB will consider developing limitations on the use of high-GWP refrigerants in new refrigeration and air-conditioning equipment where lower-GWP alternates are feasible and readily available" (page 90). The safety and feasibility of low-GWP refrigerants (e.g., hydrofluoro-olefin blends, ammonia, CO_2) is not fully established for all uses. Other actions include financial incentive programs for low-GWP refrigeration early adoption and a prohibition on sales of very-high GWP refrigerants. California's Significant New Alternatives Policy (SNAP), comprised of the

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[68] CARB. 2017. Final Short-Lived Climate Pollutant Reduction Strategy. March. Available at: https://ww2.arb.ca.gov/resources/documents/final-short-lived-climate-pollutant-reduction-strategy-march-2017. Accessed: March 2020.

[69] CARB. 2017. California's 2017 Climate Change Scoping Plan. (page 11). Available at: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed: March 2020.

[70] The effects of the recent federal actions to roll back vehicle efficiency standards have not yet been quantified.

CARB HFC Regulation and SB 1013, took effect on January 1, 2019, and will require HFC emissions reductions from non-mobile sources.[71] This includes refrigerant prohibitions for new household refrigerators and freezers, retail food refrigeration, cold storage warehouses, foams, and aerosols, among other substances, with effective dates ranging from January 1, 2019, to January 1, 2021.

Conclusion: As discussed in Section 3.1.4, reductions in waste emissions are not geographically specific as it applies to municipal solid waste, and this reduction applies to both new and existing developments. F-gas emissions may vary geographically based on refrigeration and air conditioning requirements. Per the SLCP Strategy, "[e]xisting equipment using high-GWP HFCs has an average lifetime of 15-20 years and can be expected to continue operating and emitting high-GWP HFCs well past 2030" (page 97). Emissions reductions will occur during replacement and maintenance of existing refrigeration equipment or purchase or installation of new equipment, so would apply both to existing and new developments. However, due to the length scale for HFC replacement, emissions reductions would be more heavily weighted toward new developments.

3.1.6 Other Sectors:

Scoping Plan assumptions: The Scoping Plan includes emissions and reduction strategies from several other sectors that include agriculture, industrial, and offroad sources such as landscaping equipment. The natural and working lands sector includes forests, rangelands, farms, wetlands, and soils, and California's climate objective is to maintain these as a net carbon sink. The State continues to develop quantification methodology and implementation scenarios to incorporate into future climate policies that affect natural and working lands. However, the Scoping Plan does not assume any GHG reductions in the natural and working lands sector.[72]

Conclusion: The Scoping Plan includes emissions and reduction strategies from several other sectors that are not generally controlled by the types of developments covered by this report and are not disclosed in a geographically specific manner. However, project proponents should be generally aware of these sectors and not conflict with reduction strategies therein. Projects should comply with federal permitting requirements for high-value sequestering lands such as wetlands and agricultural land.[73],[74]

3.1.7 Cap-and-Trade:

Scoping Plan assumptions: Any 'gap' in reductions to achieve the State's goals that are not explicitly included in other sectors are assumed to be met through Cap-and-Trade.

Conclusion: Cap-and-Trade assumptions are not geographically specific. This is an overarching emissions reduction strategy in the 2017 Scoping Plan that does not apply

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71 CARB. California Significant New Alternatives Policy (SNAP). 2019. Available at: https://ww2.arb.ca.gov/our-work/programs/california-significant-new-alternatives-policy-snap/about. Accessed: March 2020.

72 CARB. 2017. California's 2017 Climate Change Scoping Plan. (page 82-87 and Table 3). Available at: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed: March 2020.

73 USEPA. 2019. Section 404 of the Clean Water Act. Available at: https://www.epa.gov/cwa-404/permit-program-under-cwa-section-404. Accessed: March 2020.

74 USEPA. 2019. Laws and Regulations that Apply to Your Agricultural Operation by Farm Activity. Available at: https://www.epa.gov/agriculture/laws-and-regulations-apply-your-agricultural-operation-farm-activity. Accessed: March 2020.

specifically to the residential and commercial land use developments, although it could drive energy efficiency and vehicle efficiency as fuel gets more expensive.

3.2 Sacramento County GHG Share

To determine the Sacramento County GHG emissions as a percentage of statewide totals by sector requires assumptions about historical consumption, growth, and future expected emissions reductions. Sacramento County is expected to grow in population and employment at a faster rate than the State, on average, through 2030 and 2050.[75] As a conservative approach to set the Sacramento County maximum allowed emissions, for all emissions sectors of interest other than mobile sources, the proportion of statewide emissions from historical data in Sacramento County is assumed to remain constant in 2030 with no adjustment factor to account for its more rapid growth than the rest of the state. This is conservative, because as the population increases, Sacramento County could otherwise feasibly claim it should be allocated a larger share of total state emissions. As described further below, for the mobile sector, data from CARB's EMFAC2017 program and additional reductions to show consistency with the State target are used to project the County's share of future transportation emissions. While most of the emissions reductions are similar across California, the fraction of each sector represented in Sacramento will be different than in other areas of the state. This will result in a location-specific evaluation. Appendix A shows the detailed calculations used to inform the summary statistics presented below.

3.2.1 Building Energy:

Building energy emissions include natural gas combustion, indirect emissions from electricity generation required for both electricity consumption and electricity used to supply, treat, and distribute water and wastewater. Natural gas combustion is included in the 2017 Scoping Plan sector "Residential and Commercial", while electricity is separated into the sector "Electric Power". The percent of statewide emissions is based on historical consumption data for electricity and natural gas for Sacramento County residential and commercial sectors out of State totals.[76,77,78] This data is shown in Table A-1 for electricity and Tables A-2 and A-3 for natural gas.

3.2.2 Mobile

As described in Section 1.2, the currently adopted 2016 MTP/SCS provides a roadmap to achieving the SB 375 targets as included in the Scoping Plan's assumptions. For the SACOG region, this includes a 15% reduction in light-duty vehicle GHG emissions per capita from a 2005 baseline by 2035. However, meeting statewide 2030 and 2050 climate goals would require a 16.8% reduction in per capita light-duty VMT or a 14.3% reduction in total per capita VMT from 2015-2018 conditions, based on CARB's January 2019 white paper; this is not directly comparable to the SB 375 reduction target but rather aligns with the SB 743

[75] California Department of Finance (CDOF). 2019. P-1: State Population Projections (2010-2060), Total Population by County. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Projections/ (http://www.dof.ca.gov/Forecasting/Demographics/Projections/documents/P1_County_1yr_interim.xlsx). Accessed: March 2020.

[76] California Energy Commission (CEC). 2016. Electricity Consumption by Entity. Available at: http://www.ecdms.energy.ca.gov/elecbyutil.aspx. Accessed: March 2020.

[77] CEC. 2016. Gas Consumption by County. Available at: https://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed: March 2020.

[78] CEC. 2016 Gas Consumption by Entity. Available at: http://www.ecdms.energy.ca.gov/gasbyutil.aspx. Accessed: March 2020.

15% reduction targets recommended by the Office of Planning and Research (OPR) as described further in Section 4.3. The CARB paper states:

> "An RTP/SCS that meets the applicable SB 375 targets alone will not produce the GHG emissions reductions necessary to meet state climate goals in 2030 nor in 2050… Certain land use development projects located in areas that would produce rates of total VMT per capita that are approximately 14.3 percent lower than existing conditions, or rates of light-duty VMT per capita that are approximately 16.8 percent lower than existing conditions (either lower than the regional average or other appropriate planning context) could be, by virtue of their location and land use context, interpreted to be consistent with the transportation assumptions embedded in the 2017 Scoping Plan and with 2050 State climate goals.".[79]

Two steps are followed to determine the share of statewide emissions corresponding to this sector. First, the projected gasoline and diesel fuel use from on-road mobile vehicles for Sacramento County is calculated using CARB's EMFAC2017 for calendar year 2030. Then, a reduction of 14.3% is taken to show consistency with the State's 2030 GHG target, as described above. Table A-4 shows how EMFAC2017 fuel uses are converted to GHG emissions.

3.2.3 Waste:

CalRecycle provides historical waste disposal data for each jurisdiction. Sacramento County's share of statewide recycling and waste emissions is based on historical waste disposal data for Sacramento County out of State totals, as shown in Table A-5.

3.2.4 High-GWP Gases:

As described in Section 3.1.5, HFCs are the primary high-GWP gases of interest for the residential and commercial sectors. HFCs are expected to comprise 21% of the total high-GWP gas emissions if the State achieves its 2030 target. As shown in the SLCP Strategy, California's 2030 HFC emission sources with existing measures are expected to be comprised of 37% commercial refrigeration, 9% industrial refrigeration, 20% residential refrigeration, 5% residential aerosol use, 17% foam (insulation in products and materials), 10% transportation refrigeration, 1% other aerosols, and 1% solvents and fire suppression. The residential and commercial sectors are assumed to include 78% of HFC emissions based on the categories of commercial, residential and transportation refrigeration; residential aerosols; and a portion of the foam emissions.[80] The percent of statewide emissions in Sacramento County is estimated based on the projected population of Sacramento County out of State totals in 2030. Air conditioning and cooling needs may be higher in Sacramento County than more temperate areas of the state (e.g., San Francisco Bay Area, northern California, Lake Tahoe region), so this is likely underestimating. This calculation is shown in Table A-6.

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[79] CARB. 2019. California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals. January. Available at: https://ww2.arb.ca.gov/resources/documents/carb-2017-scoping-plan-identified-vmt-reductions-and-relationship-state-climate. Accessed: March 2020.

[80] 35% of foam emissions are assumed to be associated with the residential and commercial portions of emissions, based on Table 8 of CARB. 2015. California's High Global Warming Potential Gases Emission Inventory: Methodology and Technical Support Document. Available at: https://ww3.arb.ca.gov/cc/inventory/slcp/doc/hfc_inventory_tsd_20160411.pdf. Accessed: March 2020.

3.2.5 Localized Emissions by Sector

Localized emissions by sector consistent with the Scoping Plan using the methodology described above are summarized in Table 1.

Table 1: Localized Greenhouse Gas Emissions by Sector, 2030

Sector	Statewide (MT CO2e) [a]	Sacramento County 2030 Emissions for Residential & Commercial Development Consistent with Scoping Plan [b]	
	Updated Scoping Plan	% of Statewide	Emissions (MT CO_2e)
Agriculture	23,854,810	N/A	N/A
Residential and Commercial Natural Gas Combustion	38,078,729	1.4%	548,714
Electric Power	53,014,776	3.4%	1,817,830
High GWP	10,655,327	0.7%	70,523
Industrial	82,560,459	N/A	N/A
Recycling and Waste	9,167,237	2.1%	195,538
Transportation (Incl. TCU)	103,055,723	3.9%	3,967,853
Total	320,387,064	N/A	6,600,457
% of Total Considered c	55%	N/A	N/A

Notes:

[a] Data from CARB Scoping Plan. Available at: https://www.arb.ca.gov/cc/scopingplan/comparison_graphs_6cases101817.xlsm
[b] Supporting details are shown in Appendix A, Tables A-1 through A-6.
[c] Calculated based on the residential and commercial proportion assumed for each sector.

Abbreviations:
GWP – global warming potential
MMT CO_2e – million metric tons of carbon dioxide equivalents
N/A – not applicable
TBD – to be determined

4. GHG EMISSIONS BY SECTOR FROM NEW VS EXISTING DEVELOPMENT

The second step in thresholds development uses the Scoping Plan assumptions and emissions by sector derived in Section 3 to determine the GHG targets by sector for new developments in Sacramento County. As detailed below, for the residential and commercial sector, projected emissions from existing development are summarized and subtracted from the sector-specific emissions targets shown in Table 1. Any remaining emissions are allocated to new developments. Consistency between new and existing developments with the electric power and solid waste sector targets are qualitatively achieved through regulatory compliance. Consistency between now and existing development with the mobile targets is achieved through per capita VMT reductions consistent with the directives of SB 743.

4.1 Residential and Commercial

The emissions included in this sector as analyzed in the Scoping Plan are from natural gas combustion for heating, cooking, and other uses within buildings (including natural gas use for fireplaces or hearths). Other emissions sources associated with buildings are included in separate sectors such as Electric Power and Solid Waste. To determine the natural gas target for new developments, projections were used to establish the amount of natural gas emissions from existing commercial and residential buildings. Natural gas-related GHG emissions in new developments would be represented by the difference between projected emissions from natural gas in existing developments and the sector target shown in Table 1, as natural gas use in existing development is unlikely to grow as appliances become increasingly efficient.

Data from the Sacramento County Communitywide CAP (SCCCAP) technical memo #1 was used to evaluate the total emissions from residential and commercial buildings and the projected change in emissions from 2015 to 2030 under the business-as-usual scenario. [81] This percent change is assumed to be similar for Unincorporated Sacramento County (as shown in the SCCCAP) and the rest of the County. The percent change is then applied to Countywide historical (2015) natural gas usage data to estimate natural gas use and emissions totals from existing and new developments Countywide in 2030. Table A-7 shows the methodology and results.

As shown in Table A-7, there is no remaining emissions budget for natural gas from new developments; in fact, existing developments will need to reduce their natural gas use to meet the 2030 sector target.[82] This seems reasonable based on increasing energy efficiency for new appliances as they replace existing appliances in existing uses. Based on this analysis, new projects will need to either be electrified, reduce emissions beyond

[81] Available at: http://www.per.saccounty.net/PlansandProjectsIn-Progress/Documents/Climate%20Action%20Plan/2015%20Greenhouse%20Gas%20Emissions%20Inventory%20and%20Forecasts_Rev.pdf. Accessed: March 2020.

[82] In the CARB Scoping Plan, E3 performed stock-based modeling of space heaters and water heaters for residential and commercial buildings that would result in emissions totals that meet the State's 2030 target. In the Scoping Plan scenario, new heating systems were mainly assumed to be natural gas, with the resulting gap in emissions necessary to meet the State target assumed to be reduced through Cap-and-Trade. In the Alternative 1 (no Cap-and-Trade) scenario, E3 assumed nearly 100% of new water and space heaters would be high-efficiency electric heat pumps by 2030. Available at: https://ww3.arb.ca.gov/cc/scopingplan/pathways_stock_charts_101917.xlsm. Accessed: March 2020.

requirements from other sectors, or fund off-site GHG emissions reductions. These options are discussed further in Section 5.

4.2 Electric Power

The emissions included in this sector are indirect GHG emissions that occur when electricity is used, typically from generation from offsite power plant locations. Typical electricity uses are for building energy (air conditioning, lighting, electronic appliances, and equipment, etc.) and electricity used to convey, treat, and distribute water and wastewater.

New developments must comply with more stringent Building Energy Efficiency Standards (Title 24, Part 6) and Green Building Standards (Title 24, Part 11) than evaluated in the Scoping Plan. Further, SB 100 (De León, 2018) requires utilities to achieve 60% renewables by 2030, a more stringent target than contemplated in the Scoping Plan. In addition, new developments must achieve consistency with the latest State and local water conservation requirements. Water reductions reduce the amount of electricity needed to supply, treat, and transport the water and treat the resulting wastewater and therefore also reduce GHG emissions. Therefore, through regulatory compliance, new developments are assumed to achieve their "fair share" of reductions for the electric power sector.

4.3 Mobile

The emissions included in this sector are direct emissions from the combustion of gasoline, diesel, or compressed natural gas fuel. As described in Section 3.2.2, achievement of the currently adopted SCS targets per SB 375 are insufficient to reach the statewide GHG targets for 2030 in the Scoping Plan or longer-term 2045 or 2050 targets. Therefore, additional reductions in per capita VMT are needed. These reductions include both existing and new developments, where new developments should cover their fair share. The metrics described below are designed to show consistency with the State's climate goals while reducing the need for extra traffic modeling and reporting beyond that to be required by SB 743.

OPR's December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA[83] proposes the following thresholds and references the CARB January 2019 memorandum[84] that confirms these targets are consistent with the 2017 Scoping Plan's 2030 and 2050 trajectories. It also states that "meeting the targets described above (for overall climate change) will require substantial reductions in existing VMT per capita…" In other words, the Technical Advisory acknowledges that people in both new and existing developments will need to reduce single-occupancy vehicle use, but still suggests an additional reduction for new development.

4.3.1 Regional VMT Targets

Projects should use consistency with SB 743 to determine required VMT reductions that show consistency with the GHG targets. As described by OPR, these targets are as follows:

- Residential projects: A proposed project below a level of 15 percent below existing VMT per capita may indicate a less than significant transportation impact. Existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita.

[83] OPR. December 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. Available at: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf. Accessed: March 2020.

[84] CARB. 2019. California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals. January. Available at: https://ww2.arb.ca.gov/resources/documents/carb-2017-scoping-plan-identified-vmt-reductions-and-relationship-state-climate. Accessed: March 2020.

- Office projects: A proposed project below a level of 15 percent below existing regional VMT per employee may indicate a less than significant transportation impact.
- Retail projects: A net increase in total VMT may indicate a significant transportation impact.

For jurisdictions with SB 743 targets already established, projects that show consistency with those established targets will show consistency with the SMAQMD GHG targets. For jurisdictions without established SB 743 targets, regional targets have been developed using SACOG data for the 2020 MTP/SCS. This data was used to derive historical average Sacramento County regional VMT per resident and VMT per worker (based on 2016 data, which falls within the 2015-2018 data that represents existing conditions in CARB's January 2019 white paper). This VMT per capita is then reduced by 15% to determine targets consistent with the State targets. For Sacramento County, these values are shown below in Table 2.

Table 2: VMT per Capita for Sacramento County GHG Targets

Type	2016 VMT per Capita	VMT per Capita to Shown Consistency with Target	
	(miles/capita)[a]	% Reduction	(miles/capita)
Residential	15.9	15%	13.5
Worker	17.2	15%	14.6

Notes:
[a] Data provided by SACOG as used in the 2020 MTP/SCS.

Abbreviations:
MTP/SCS – Metropolitan Transportation Plan/Sustainable Communities Strategy
VMT – vehicle miles traveled N/A – not applicable

4.3.2 Projects with de Minimis Mobile GHG Impacts

Certain projects may be assumed to have a negligible contribution toward total GHG emissions or be consistent with the targets and will not be required to perform a full VMT evaluation. This methodology adopts slight variations on the *de minimis* significance thresholds from the OPR December 2018 Technical Advisory and exempts the following types of projects, provided that project-specific or location-specific information do not indicate that the project will still generate significant levels of VMT as described by OPR.[85]

- Small projects that generate or attract fewer than 110 trips per day
- Residential and office projects in areas with low VMT (currently below threshold VMT) that incorporate similar features (i.e., density, mix of uses, transit accessibility), including affordable housing infill development.

[85] See pages 13 to 15 of OPR. 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. Available at: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf. Accessed: March 2020.

- Residential, retail, office, or mixed-use projects within ½ mile walking distance of an existing major transit stop or existing stop along a high quality transit corridor, *unless the primary use of the site is auto-oriented (e.g., car dealership, car wash, gas station)*.

4.4 Solid Waste

The emissions included in this sector as analyzed in the Scoping Plan cover all aspects of solid waste and materials management including reduction/reuse; recycling; remanufacturing of recovered material; composting and in-vessel digestion; biomass management; municipal solid waste transformation; and landfilling. Following legislative and CARB action discussed earlier, CalRecycle is required to adopt regulations to (1) achieve a 75% statewide solid waste recycling rate by 2020; (2) reduce landfilling of organic waste by 50% below 2014 levels by 2020; (3) reduce landfilling of organic waste by 75% below 2014 levels by 2025; and (4) recover at least 20% of edible food destined for organic waste and divert to feed people in need by 2025.[86,87] Existing and new developments must comply with all applicable CalRecycle or other local requirements including those for diversion, recycling, and composting. Therefore, through regulatory compliance, new developments are assumed to achieve their "fair share" of reductions for the solid waste sector.

4.5 High-GWP Gases

The emissions included in this sector as analyzed in the Scoping Plan include HFCs, anthropogenic black carbon, and methane emissions. As described in Section 3.1.5, California's SNAP and other regulations will reduce HFC emissions. However, these regulations are not yet determined to be sufficient to achieve the targets. Through regulatory compliance, new developments are expected to achieve their "fair share" of reductions for the high-GWP sector. However, if low-GWP refrigeration substitutes become available prior to their regulatory requirement, new developments would be expected to use these substitutes to ensure their consistency with the State target.

[86] CARB. 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. November. Available at: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed: March 2020.

[87] CalRecycle. 2018. Legislation and Regulations. Available online at: https://www.calrecycle.ca.gov/Laws/. Accessed: March 2020.

5. GHG TARGETS AND BEST MANAGEMENT PRACTICES BY PLACE TYPE

5.1 Best Management Practices

To demonstrate consistency with the GHG targets by sector for new developments described in Section 4, project proponents shall commit to a menu of best management practices (BMPs). Based on the targets derived above, there are two tiers of BMPs: Tier 1: Required for all projects to avoid conflicting with long-term State goals, and Tier 2: Required for projects that do not screen out of further requirements (e.g., large or inefficient projects). Approximate GHG reductions expected due to the BMPs are described in Section 5.5. These BMPs may be revised over time to incorporate regulatory or technological advances.

Tier 1: BMPs Required for all Projects

- BMP 1: No natural gas: Projects shall be designed and constructed without natural gas infrastructure.
- BMP 2: Electric vehicle ready: Projects shall meet the current CalGreen Tier 2 standards, except all EV Capable spaces shall instead by EV Ready. Appendix B provides definitions and estimated costs and notes on current and future regulatory requirements.

Alternatives may be proposed that demonstrate the same level of GHG reductions as BMPs 1 and 2. Example alternative reductions are described in Section 5.3. As described in Section 6, at a minimum, for purposes of evaluating consistency with 2045 statewide carbon neutrality, a project would need to mitigate any natural gas emissions and require all pre-wiring necessary so that the building is ready for a future retrofit to all-electric (e.g., such that electric space heating, water heating, drying, and cooking appliances could be installed).

Small, efficient projects may screen out of further requirements. This includes projects that screen out due to OPR's *de minimis* VMT criteria as discussed in Section 4.3, and projects that emit less than 1,100 MT CO_2e/year prior to implementation of BMP 1 and 2.[88] SMAQMD recently reviewed 102 Environmental Impact Reports (EIRs) and Mitigated Negative Declarations (MNDs) in Sacramento County between 2014 and 2018. Of these projects, a screening level of 1,100 MT CO_2e/year would result in 43 projects below the screening level but would still capture over 98% of the total GHG emissions. SMAQMD has prepared an operational screening table of project sizes by land use subtype that are below the 1,100 MT CO_2e/year threshold to assist in these designations.[89] The 1,100 MT threshold was adopted by the Board with substantial evidence and documented through staff reports.[90]

Tier 2: BMP Required for Large or Inefficient Projects

- BMP 3: As described in more detail in Section 4.3.1, residential projects shall achieve a 15% reduction in VMT per resident, and office projects should achieve a 15% reduction in

[88] 1,100 MT CO2e/year is the current SMAQMD de minimis threshold. By complying with BMPs 1,and 2 above (removing natural gas, EV-ready), small projects would reduce emissions to be consistent with State goals.

[89] SMAQMD. 2018. SMAQMD Operational Screening Levels. Available at: http://www.airquality.org/LandUseTransportation/Documents/Ch4+Ch6OperationalScreening4-2018.pdf. Accessed: June 2020.

[90] SMAQMD. 2014. Justification for Greenhouse Gas Emissions Thresholds of Significance. September. Available at: http://www.airquality.org/LandUseTransportation/Documents/GHGThresholdsJustificationSept2014.pdf. Accessed: June 2020.

VMT per worker compared to existing average VMT per capita for the county, or for the city if a more local SB 743 target has been established. Retail projects should achieve no net increase in total VMT, as required to show consistency with SB 743. These reductions can be achieved by many strategies, such as:

- Locate in an area that already has low VMT due to location, transit service, etc.
- Adopt CAPCOA measures
- Adopt measures noted in Sacramento's CAP checklist
- Join a Transportation Management Association
- Incorporate traffic calming measures
- Incorporate pedestrian facilities and connections to public transportation
- Promote electric bicycle or other micro-mobility options

Quantification methodology for these strategies is described in the SMAQMD Recommended Guidance for Land Use Emission Reductions (AQMP) guidance.[91] Projects that are located in areas with existing VMT per capita above the county or city average VMT per capita shall also provide sufficient electrical capacity (e.g., transmission lines and substation sites) such that 100% of project vehicles have the potential to be zero-emission vehicles in future years.[92]

If a project cannot incorporate the required BMPs, other reductions or purchasing and retiring GHG/carbon offsets from a registry approved by the SMAQMD may be required. Carbon offsets are instruments that can be bought, sold, and traded. Like a stock or equity that represents a unit of ownership in a company, a carbon offset represents a unit of greenhouse gas emissions reductions. Each offset is essentially a certification that a certain quantity of greenhouse gas emissions has been avoided, prevented, or sequestered. Offset registries that the SMAQMD may approve have developed a broad consensus around the standards that are necessary to ensure that offsets are environmentally sound, namely, that offsets be real, permanent, quantifiable, verifiable, enforceable, and additional. Approved registries may include but are not limited to any of the following: (i) the Climate Action Reserve, the American Carbon Registry and Verra, which are all approved by CARB; (ii) any entity approved at any time by CARB to act as an "offset project registry" under the state's cap-and-trade program; (iii) other regulatory or voluntary credits that demonstrate, based on substantial evidence, that the offsets are real, permanent, quantifiable, verifiable, enforceable, and additional.

In addition to the BMPs, projects need to show consistency with the 2045 statewide carbon neutrality target, as described further in Section 6.

5.2 Modeling Unmitigated and Mitigated Emissions

Emissions should be quantified for projects that are either required to comply with the Tier 2 BMPs or would not comply with the Tier 1 BMPs (for example, they choose to use natural gas). The California Emissions Estimator Model (CalEEMod®) is typically used to model GHG

[91] SMAQMD. 2020. Recommended Guidance for Land Use Emission Reductions. Available at: http://www.airquality.org/businesses/ceqa-land-use-planning/mitigation. Accessed: June 2020.

[92] Projects in areas with below-average VMT per capita tend to be urban or infill locations with limited parking facilities where additional electrical capacity may be infeasible, but also where public or fast charging are likely to be targeted nearby by programs such as the VW fund.

and criteria air pollutants for project operations for CEQA purposes and has been recommended by SMAQMD in its Recommended Guidance for Land Use Emission Reductions.[93] The most current version of CalEEMod® should be run to calculate operational emissions for the buildout year for the proposed project land use subtypes and climate zone. Most of the inputs and descriptions for modeling emissions will be consistent with the SMAQMD guidance.[94] Differences are described below.

Building Energy:

Natural Gas and Electricity: The unmitigated natural gas use should assume compliance with the most current version of the Title 24, Part 6 Building Energy Efficiency Standards. The mitigated natural gas use should include assumed compliance with BMP-1 and therefore should include no natural gas use (including in the area source − hearths and fireplaces inputs). This will allow a project proponent to accurately assess the emissions reductions necessary if they do not comply with BMP-1.

The CO_2 intensity factor for electricity should be based on consistency with SB 100. To derive this factor, the historical emissions from delivered electricity and the percent of RPS-eligible renewable electricity for the relevant utility (e.g., Sacramento Metropolitan Utility District, SMUD) should be used to calculate the emissions from non-RPS-eligible renewables per megawatt-hour (MWh) delivered. This factor should be assumed to remain constant, and the percent of renewables required by SB 100 should be incorporated for the project buildout year.[95] The year-by-year projections that should be used for projects that receive power from SMUD is shown in Table A-8. The unmitigated electricity use should assume compliance with the most current version of the Title 24, Part 6 Building Energy Efficiency Standards. The mitigated electricity use should include any additional electricity needed to replace natural gas.

Energy use conversion from major natural gas appliances to their equivalent electric replacements tends not to be straightforward given that most significant gas appliances (e.g. water heaters, space heaters, ovens and cooktops) have varying input-to-output efficiencies and losses from product to product. Equivalent electric appliances also have differing efficiencies, and usage patterns for these equivalent appliances may differ in some way. However, the increase in electricity use as a result of natural gas to electric switchover can be estimated more easily with the aid of average end use consumption data for equivalent gas and electric appliance types.

Table A-9 shows average energy use rates per dwelling unit or area for major natural gas commercial and residential end uses. Any full or partial reduction in natural gas end uses or appliance types can be estimated by multiplying the percentage of natural gas reduction by the percent of total natural gas consumption for a given gas appliance. That reduction percentage can then be subtracted from an existing total gas consumption rate (e.g. CalEEMod default energy use intensities). The additional electricity use can be estimated by multiplying the electric energy use rate by the number of dwelling units or commercial

[93] SMAQMD. 2020. Recommended Guidance for Land Use Emission Reductions. Available at: http://www.airquality.org/residents/ceqa-land-use-planning/mitigation. Accessed: June 2020.

[94] SMAQMD. 2020. Recommended Guidance for Land Use Emission Reductions. Available at: http://www.airquality.org/residents/ceqa-land-use-planning/mitigation. Accessed: June 2020.

[95] If SMUD fails to achieve its SB 100 targets or shows significant changes in its non-RPS-eligible power generation source types, this table should be updated to reflect more current information.

square footage and adding this to the CalEEMod® default total electricity consumption rate. For example, a single family residence that complies with BMP 1 would remove all natural gas use from the CalEEMod® default ("Title 24" and "Non-Title 24" natural gas categories) and add 4,650 kWh to the electricity total. In contrast, a residence that keeps natural gas cooking would use Table A-9 to show that it should keep 9% of the CalEEMod® default natural gas use and should add (4,650 minus 310 equals 4,340) 4,340 kWh to the electricity total.

For energy consumption estimates not broken down by appliance groups, total natural gas consumption rates per dwelling unit or area are presented for the three most significant gas appliance types, along with total consumption rates for these appliances' electric equivalents. Appendix C includes additional supporting documentation used to derive Table A-9.

Water: The unmitigated and mitigated water use rates should use CalEEMod® defaults. As described in Section 3.1.2, projects are assumed to meet a 10% reduction target through regulatory compliance. If a project reduces water use beyond regulatory requirements, this can be included in the mitigated run.

Mobile:

CalEEMod® contains default mobile trip generation rates, lengths, and trip types based on the Institute for Transportation Engineers (ITE) data that generally applies to suburban development nationwide. Adjustments to the defaults can be applied to reduce emissions based on either Project-specific traffic modeling or standard mitigation assumptions related to the land use location, density, mixed-use type, or other metrics that may reduce VMT. In September 2019, SACOG prepared updated default data on trip lengths and trip types based on traffic modeling for each of its counties; if this has not yet been incorporated into CalEEMod® by the time these GHG thresholds are used, users should replace the CalEEMod® defaults with the more current data.

Modeling GHG emissions and VMT to show consistency with the metrics in Section 4.3 likely requires adjustments to typical CalEEMod® emissions modeling. The SB 743 thresholds that will be used for the SMAQMD GHG thresholds apply to trips from light-duty vehicles for residential and office projects only. However, all mobile emissions from all land uses should be disclosed in the GHG section, including those from non-passenger vehicles and for land uses other than residential and office. CalEEMod® defaults should be adjusted to account for Sacramento County-specific VMT and to determine the necessary VMT reduction for the Project. If projects are located in jurisdictions with more local data and methodologies that are SB 743 compliant, that data can be used rather than the Sacramento County-overall data.

A lookup map has been prepared using the SACOG 2020 MTP/SCS data that shows adjustment factors to apply to the CalEEMod® default VMT for relevant land use subtypes in Sacramento County. This map is available at http://sb743-sacog.opendata.arcgis.com/. These adjustment factors are based on the 2016 relative VMT per capita based on the location-specific traffic modeling.

Project proponents should use the (new) defaults from CalEEMod multiplied by the relevant adjustment factor for their unmitigated CalEEMod® emissions modeling. To calculate the adjustment factor, the project proponent should zoom into the proposed project location in the map. The map will contain hexagon-shaped areas with data on VMT per capita for each hexagon ("hex-level VMT per capita"). The project proponent should divide the hex-level

VMT per capita by the Sacramento County VMT per capita to derive the adjustment factor. For example, a project located in a center or corridor community in downtown Sacramento might see its VMT reduced by 60% compared to the countywide average; its adjustment factor to the CalEEMod® defaults trip generation rate would thus be 60%. The mitigated run then needs to demonstrate a 15% VMT reduction below the Sacramento County average resident per capita and worker per capita VMT as shown in Table 2. The example in downtown Sacramento would already be consistent with this reduction requirement. The 15% reduction could be due to project design features or mitigation measures, as described further in Section 5.1, but should not double-count features that are already incorporated in SACOG's default modeling (e.g., mixed-use features for established communities).

For retail uses, there are several alternative means that might be used to demonstrate no net increase in VMT. For chains, loyalty "club" card data for the nearby stores may be used, where available, to determine the origins and distance traveled for store users of that type (e.g., supermarket, hardware store) and similar locations. Another option is to look at the distance from population centroids as compared to competitor distance. A third option is to evaluate the nexus to public transportation as opposed to competitors.

For other land use types, the defaults can be used, and the emissions disclosed.

Note that vehicle emission reductions (e.g., zero emission vehicles) cannot be substituted for VMT reductions; CARB has concluded that VMT reductions are needed in addition to cleaner vehicles and fuels to meet statewide goals.[96]

Waste:

The unmitigated waste disposal rates should use CalEEMod® defaults. As described in Section 4.4, projects are assumed to meet the State targets through regulatory compliance. If a project reduces waste disposal beyond regulatory requirements, this can be included in the mitigated run.

Other Sectors:

The other sectors should use CalEEMod® defaults and project-specific data, where available. If the project reduces emissions beyond regulatory requirements, this can be included in the mitigated run.

5.3 Alternative Greenhouse Gas Reduction Measures

As described in Section 5.1, if applicants cannot or choose not to incorporate the required BMPs, they may propose alternative GHG reduction strategies that achieve equivalent reductions, provided that they are surplus to the reductions needed to achieve the State's targets. This guidance is intended to allow applicants to pursue innovative and cost-effective measures and is not intended to restrict the reduction measures to those described here. However, example strategies include the following, among many others:

- Use natural refrigerants: Projects can participate in SMUD's pilot program to use lower-GWP or natural alternates for refrigeration and air conditioning. Natural refrigerants include ammonia, CO2, or hydrocarbons. To quantify the benefits of this measure, the

[96] CARB. 2017 Scoping Plan, page 75. Available at: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed June 2020.

applicant should work with SMUD or CARB tools to calculate high-GWP emissions from traditional refrigerants (as these emissions are not typically included in CEQA emissions inventories and would not be added to the unmitigated emissions totals) and then calculate the reduction due to the lower-GWP refrigerants.

- Increase vegetation sequestration: Projects can increase carbon sequestration in natural and working lands through planting and management techniques. To quantify the benefits of these commitments, the applicant should use calculational methodology such as CARB's approved offsets protocols, California Climate Initiatives (CCI) tools and calculators, and/or CalEEMod®.
- Install electric vehicle charging stations: Projects can install EV charging stations in addition to the electrical infrastructure required by BMP 2. To quantify the benefits of this measure, the applicant should use Project-specific or applicable published literature to calculate the projected amount of charging that will be provided by the chargers, then subtract the indirect emissions from electricity used by the chargers from the gasoline- or diesel-combustion tailpipe emissions that would otherwise be produced by internal combustion-powered vehicles. The applicant should take care not to double-count GHG reductions with reductions already assumed by the State in its base EV projections.
- Solar water heaters and other water heating reductions: Projects can install solar water heaters to replace the need for natural gas or electricity for water heating. Since the unmitigated default to show compliance with BMP 1 is to assume no natural gas, the GHG benefit should be the reduction in electricity that would otherwise be used to heat water.
- Increase water and waste reductions beyond regulatory compliance: As described in Section 5.2, projects can demonstrate GHG reductions beyond defaults based on project-specific studies and initiatives and can quantify these reductions using CalEEMod® methodology.
- Reduce gas- or diesel-powered landscaping equipment use: Project proponents design for reduced landscaping equipment (xeriscaping) or contract with a parks district, city, or homeowners' association to require the use of electric landscaping equipment. To demonstrate GHG reductions would require enforceable mechanisms. For example, the California Electrical Code requires outdoor receptacle outlet(s) to be installed at an accessible level for all new residences[97]; this can enable the use of electric landscaping equipment but does not ensure its use.

5.4 Other Thresholds

As described in Section 1, this report is not intended to replace SMAQMD's existing thresholds or suggested GHG reduction guidance for stationary source emissions or construction emissions. Those thresholds were adopted by the Board with substantial evidence and documented through staff reports.[98]

[97] California Building Standards Commission. 2019 Title 24, Part 3 California Electrical Code, Sections 210.52(E)

[98] SMAQMD. 2014. Justification for Greenhouse Gas Emissions Thresholds of Significance. Available at: http://www.airquality.org/LandUseTransportation/Documents/GHGThresholdsJustificationSept2014.pdf. Accessed: June 2020.

5.5 GHG Reductions from BMPs

The BMPs were developed to show consistency with the State's climate goals as applicable to new developments in Sacramento County, as described in Sections 3 and 4. The BMPs are expected to reduce GHG emissions as follows:

BMP 1: The reduction in natural gas emissions is approximately 257,000 MT, based on the difference between the 2015 natural gas emissions and the 2030 business-as-usual natural gas emissions summarized in Table A-7. As described in Table A-7, the business-as-usual increase in emissions between the 2015 and 2030 inventories would be solely due to population and employment growth, and therefore is the amount reduced if the growth excludes natural gas. This does not include any additional reductions that would result if renovations or building retrofits reduce natural gas use from existing buildings.

BMP 2: Additional EV infrastructure is necessary to achieve the State's EV goals. The California Energy Commission and National Renewable Energy Laboratory project that far more chargers are needed than currently on-track to be installed to meet the State's 2025 targets; even more will be needed to meet targets for 2030 and beyond.[99] In addition, the 2020 SACOG MTP/SCS assumes zero emission vehicle infrastructure higher in the SACOG region than the State's overall projections in order to meet the SCS target reduction.[100] On an operational per-mile basis, EVs will reduce emissions by approximately 89% compared to internal combustion engine vehicles at around 211 grams of CO_2e per mile, based on the electricity grid composition and passenger fleet fuel economy expected in 2030; this is shown in Table A-10. In later years, as the grid becomes cleaner, this benefit will increase.

BMP 3: The GHG emissions reduction due to the 15% VMT reduction is projected to be approximately 662,000 MT CO_2e, based on the difference in EMFAC2017 projected fuel use and fuel use to meet the State goals as shown in Table A-4.

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[99] National Renewable Energy Laboratory. 2018. California Plug-in Electric Vehicle Infrastructure Projections: 2017-2025. California Energy Commission Publication CEC-60-2018-001. Available at: https://www.nrel.gov/docs/fy18osti/70893.pdf.

[100] SACOG. 2019. Metropolitan Transportation Plan/Sustainable Communities Strategy (page 62). Available online at: https://www.sacog.org/2020-metropolitan-transportation-plansustainable-communities-strategy-update. Accessed: March 2020.

6. LONGER-TERM GHG TARGETS

After 2030, SB 100 (De León, 2018) requires statewide 100% carbon-free electricity by 2045. In addition, Governor Brown's Executive Order B-55-18 (2018) targets all other sectors of the economy (including transportation, building heating and cooling, industry, etc.) by setting a policy goal of statewide carbon neutrality by 2045.

Achieving statewide carbon neutrality will require systemic changes in how energy is produced and consumed through all sectors of the economy. Because the mix of technologies, strategies, and policy choices the state will ultimately choose to implement to achieve the 2045 goal is not readily ascertainable at this time, any accounting of future GHG emissions from an individual development project cannot yet reflect the scope and scale of reductions that may occur as the state transitions toward new regulations designed to achieve the new long-term goals. Furthermore, in absence of a state plan to achieve these long-term goals, it is difficult to identify the "fair share" of reductions to be applied at the local or project level. Therefore, in order to evaluate the significance of a project with buildout beyond 2030, the project would be required to show that the SMAQMD 2030 targets and BMPs are met, and also qualitatively describe consistency with statewide carbon neutrality by 2045.

A number of studies have been conducted to identify pathways to achieving the statewide goal of reducing GHG emissions to 80% below 1990 levels by 2050, which was established in Governor Schwarzenegger's 2005 Executive Order S-3-05 and preceded the 2045 statewide carbon neutrality goal.[101,102,103,104,105,106,107] In general, these studies have similar conclusions: deep cuts in GHG emissions can be achieved with substantial changes in electricity production, transportation fuels, and industrial processes. Meeting the 2050 goal (and by extension, the 2045 goal) would require:

- Electricity production that relies on much more renewable energy, plus other carbon-free sources.
- The reduction in petroleum-based fuels for transportation, including a combination of the electrification of transportation to reduce GHG emissions with increased energy efficiency

[101] Williams et al. 2012. The Technology Path to Deep Greenhouse Gas Emissions Cuts by 2050: The Pivotal Role of Electricity. Available at: https://science.sciencemag.org/content/335/6064/53.full. Accessed: March 2020.

[102] California Council on Science and Technology. 2012. California's Energy Future – Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets. Available at: https://ccst.us/reports/californias-energy-future-portraits-of-energy-systems-for-meeting-greenhouse-gas-reduction-requirements/. Accessed: March 2020.

[103] California Department of Transportation. 2016. California Transportation Plan 2040. June. Available at: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/finalctp2040-report-webready.pdf. Accessed: March 2020.

[104] E3. 2015. Summary of the California State Agencies PATHWAYS Project: Long-Term GHG Reduction Scenarios. Available at: https://ethree.com/public_projects/energy_principals_study.php. Accessed March 2020.

[105] E3. 2015. Pathways to Deep Decarbonization in the United States. Available at: http://www.arb.ca.gov/research/lectures/speakers/williams/williams.pdf. Accessed: August 2019.

[106] EPRI and NRDC. Environmental Assessment of a full Electric Transportation Portfolio. Volume 2, Greenhouse Gas Emissions. Available at: http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=3002006881. Accessed: March 2020.

[107] CARB. 2017. 2017 Scoping Plan Appendix C: Vibrant Communities and Landscapes and Potential State-Level Strategies to Advance Sustainable, Equitable Communities and Reduce Vehicle Miles of Travel. Available at: https://ww3.arb.ca.gov/cc/scopingplan/2030sp_appc_vmt_final.pdf. Accessed: March 2020.

that comes from electric motors and reduced fossil fuel use due to the decarbonized electricity supply and the use of hydrogen fuels.

- The electrification of industrial process heating that is currently provided by fossil fuels.
- Land use strategies that ensure future growth and development occurs in infill locations or locations with existing infrastructure, minimizes vehicles miles traveled, prioritizes active transportation and transit, and preserves natural and working lands, in addition to landscape-scale forest conservation and soil carbon sequestration.
- Reductions in non-energy, non-CO_2 GHGs including reductions in F-gases; solid waste source reduction, diversion, composting, and recycling; and agricultural policies, such as the reduction of methane emissions from dairy cows and manure.
- The use of technologies that have not yet been established or proven.

Thus at a minimum, for purposes of evaluating consistency with 2045 statewide carbon neutrality, a project would need to eliminate natural gas completely or require all pre-wiring necessary so that the building is ready for a future retrofit to all-electric, and in regions with relatively high VMT per capita (e.g., suburban and greenfield developments) to provide sufficient electrical capacity such that 100% of project vehicles have the potential to be zero-emission vehicles. Additionally, the project would be required to qualitatively show that it is not otherwise impeding the 2045 statewide carbon neutrality goal.

APPENDIX A
TABLES

Table A-1
2018 Sacramento Electric Power Usage Compared to State by Sector
Greenhouse Gas CEQA Thresholds Update
Sacramento County, California

Utility Type	Utility Name	Commercial Building	Commercial Other	Residential	All Sectors Total	Commerical + Residential Sectors Total
		GWh[1]				
Publicly owned utility	Sacramento Municipal Utility District	4,143	431	4,550	10,315	9,124
Self Generator	Self Generation in the NCNC planning area	160	55	297	580	512
Sacramento County Total		4,303	486	4,847	10,895	9,636
Statewide Total		103,199	15,038	92,640	281,024	210,876
Sacramento Residential and Commercial Percentage of Statewide Total						**3.4%**

Notes:

[1] 2018 electricity consumption by entity for the State of California. Source: California Energy Commission. Available at: http://www.ecdms.energy.ca.gov/elecbyutil.aspx. All sectors total includes all uses, including industry, mining, streetlights, and agriculture.

Abbreviations:

CEQA- California Environmental Quality Act
GWh- Gigawatt hour
NCNC- Northern California Non-California Independent System Operator (ISO)

Table A-2
2018 PG&E Gas Usage Compared to State by Sector
Greenhouse Gas CEQA Thresholds Update
Sacramento County, California

Utility Type	Utility Name	Commercial Building	Commercial Other	Residential	All Sectors Total	Commerical + Residential Sectors Total
		Millions of Therms[1]				
Investor owned utility	PG&E[2]	899	59	1,833	4,794	2,791
Statewide Total		2,050	169	4,393	12,638	6,612
PG&E Commercial + Residential Usage Percentage of PG&E Total Usage						**58%**

Notes:

1 2018 gas consumption by utility for the State of California. Source: California Energy Commission. Available at: https://ecdms.energy.ca.gov/gasbyutil.aspx. All sectors total includes all uses, including industry, mining, streetlights, and agriculture.

2 PG&E services Sacramento County as well as other regions of California. The purpose of this calculation is to calculate the proportion of natural gas use in the PG&E service area that is used for commercial and residential sectors, as this data is not otherwise available at the County level. This percent is then used to calculate the Sacramento County share of residential and commercial natural gas use in Table A-3.

Abbreviations:

CEQA- California Environmental Quality Act
GWh- Gigawatt hour
PG&E - Pacific Gas and Electric

Table A-3

2018 Sacramento Gas Usage Compared to State

Greenhouse Gas CEQA Thresholds Update

Sacramento County, California

County	**Sector**	**Total Usage[1]**
		Millions of Therms
Sacramento	Non-Residential	111
Sacramento	Residential	194
Statewide	Non-Residential	8,245
Statewide	Residential	4,393
Sacramento Total		**305**
Statewide Total		**12,333**
Sacramento Percentage of Statewide		**2.5%**
Proportion of Total from Residential and Commercial [2]		58%
Sacramento Residential and Commercial Percentage of Statewide		**1.4%**

Notes:

[1] 2018 gas consumption by county for the State of California. Source: California Energy Commission. Available at: https://ecdms.energy.ca.gov/gasbycounty.aspx

[2] As shown in Table A-2.

Abbreviations:

CEQA- California Environmental Quality Act

Table A-4

Sacramento County Mobile Fuel Use to GHG Emissions

Greenhouse Gas CEQA Thresholds Update

Sacramento County, California

Variable	**Fuel Type**	**Sacramento County Value**	**Units**
		2030	
EMFAC2017 Projected Fuel Use[1]	GAS	1,179,547	gal/day
	DSL	248,646	
Reduction to Meet State Goals[2]	ALL	14.3%	%
Total Fuel Use to Meet State Goals[1,2]	GAS	1,010,872	gal/day
	DSL	213,089	
Emission Factors[3]	GAS	9.13	kg CO_2/gal
	DSL	10.35	
Annual GHG Emissions[4]	Total	**3,967,853**	MT CO_2/year
Statewide Total Emissions[5]	Total	103,055,723	MT CO_2e/year
Sacramento County Percentage of Statewide	Total	**3.9%**	%
Reduction in GHG Emissions[6]	Total	**662,081**	MT CO_2/year

Notes:

[1] Projected fuel use from CARB EMFAC2017 web database for Sacramento County, calendar year 2030, aggregated models and speeds. Available at: https://www.arb.ca.gov/emfac/2017/. Does not the very small portion of mobile vehicles fueled by natural gas.

[2] This reduction aligns with CARB's reductions in total VMT per capita to meet statewide targets and assumes fuel use is directly proportional to VMT. Source: CARB. 2019. California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals. January. Available at: https://ww2.arb.ca.gov/resources/documents/carb-2017-scoping-plan-identified-vmt-reductions-and-relationship-state-climate. Accessed: August 2019.

[3] The conversion factors for gasoline and diesel are 9.13 kg CO2/gal and 10.35 kg CO2/gal, respectively. Source: The Climate Registry, 2018 Default Emission Factor Document. Available at: https://www.theclimateregistry.org/wp-content/uploads/2018/06/The-Climate-Registry-2018-Default-Emission-Factor-Document.pdf

[4] Consistent with CARB methodology for the quantification of GHG reduction measures, daily VMT was multiplied by 347 days per year to estimate annual VMT to account for lower VMT during weekends, holidays, and summer periods.

[5] Data from CARB Scoping Plan. Available at: https://www.arb.ca.gov/cc/scopingplan/comparison_graphs_6cases101817.xlsm

[6] This is the approximate reduction compared to the EMFAC2017 Sacramento County projected mobile GHG emissions due to a 14.3% reductions in gasoline and diesel fuel use.

Abbreviations:

CARB - California Air Resources Board
CEQA - California Environmental Quality Act
EMFAC - EMission FACtors Model
gal - gallon
GHG - greenhouse gas emissions
kg - kilogram
MT - metric tonnes

Table A-5
2018 Sacramento Waste Landfilled Compared to State
Greenhouse Gas CEQA Thresholds Update
Sacramento County, California

County	Waste Landfilled[1]
	Tons
Sacramento Total	833,340
Statewide Total	39,068,723
Sacramento Percentage of Statewide	**2.1%**

Notes:

[1] 2018 Landfill Tonnage Reports for Sacramento County out of the state.
Source: CalRecycle. Available at:
https://www2.calrecycle.ca.gov/LandfillTipFees/

Abbreviations:

CEQA- California Environmental Quality Act

Table A-6
Sacramento County Portion of High-GWP Gases Emissions
Greenhouse Gas CEQA Thresholds Update
Sacramento County, California

Type	Variable	Value
Data from SLCP Strategy	HFC % of Total High-GWP Emissions[1]	21%
	% of HFC Emissions from Residential & Commercial Sector[2]	78%
Population in 2030[3]	Sacramento County	1,758,565
	Statewide	43,631,295
	% of Statewide	4.0%
Sacramento Residential & Commercial Percentage of Statewide		**0.7%**

Notes:

[1] Data from CARB SLCP Strategy, Table 1, 2030 Emissions Reduction Target. Available at: https://ww2.arb.ca.gov/resources/documents/final-short-lived-climate-pollutant-reduction-strategy-march-2017. Accessed: September 2019. Assumes residential and commercial sectors are primarily associated with HFC emissions, not methane or anthropogenic black carbon emissions.

[2] The residential and commercial sectors are assumed to include 78% of HFC emissions based on the categories of commercial refrigeration (37%), residential refrigeration (20%), transportation refrigeration (10%), residential aerosols (5%), and a portion of the foam emissions (6%). 35% of foam emissions are assumed to be associated with the residential and commercial portions of emissions, based on Table 8 of CARB. 2015. California's High Global Warming Potential Gases Emission Inventory: Methodology and Technical Support Document. Available at: https://ww3.arb.ca.gov/cc/inventory/slcp/doc/hfc_inventory_tsd_20160411.pdf. Accessed: September 2019.

[3] Data from CA Department of Finance, Total Estimated and Projected Population for California and Counties: July 1, 2010 to July 1, 2060 in 1-year Increments. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Projections/documents/P1_County_1yr_interim.xlsx. Accessed: September 2019.

Abbreviations:

CARB - California Air Resources Board
GWP - Global Warming Potential
HFC - hydrofluorocarbon
SLCP - Short-Lived Climate Pollutants

Table A-7

Natural Gas Emissions Budget for New Developments

Greenhouse Gas CEQA Thresholds Update

Sacramento County, California

Location	Type	Residential & Commercial Natural Gas
Building Energy Emissions from Unincorporated SCCAP BAU	2015 Emissions (MT CO_2e)[1]	685,662
	2030 Emissions (MT CO_2e)[2]	844,454
	Change, 2015-2030	23%
Sacramento County	2015 use (million therms)[3]	163
	2015 Emissions (MT CO_2e)[4]	1,109,800
	2030 BAU Emissions (MT CO_2e)[5]	1,366,818
	2030 Sector Target (MT CO_2e)	548,714
	2030 Remaining for New Development[6]	**0**

Notes:

1 2015 emissions from the Sacramento County Communitywide CAP (SCCCAP) technical memo #1, Table 6, for the residential and commercial sectors. 2015 emissions are 33% of the total 2015 emissions from the "Residential Energy" and "Commercial/Industrial Energy" as presented in the SCCCAP. Available at: http://www.per.saccounty.net/PlansandProjectsIn-Progress/Documents/Climate%20Action%20Plan/2015%20Greenhouse%20Gas%20Emissions%20Inventory%20and%20Forecasts_Rev.pdf

2 Because the SCCCAP Business-as-Usual projection does not incorporate changes in the electricity intensity factor over time, the increase in emissions between the 2015 and 2030 inventories is solely due to population and employment growth. Therefore the same proportion of total emissions (33%) described in footnote #1 is applied to the 2030 BAU "Residential Energy" and "Commercial/Industrial Energy" emissions from the SCCCAP to derive the 2030 emissions from residential and commercial natural gas combustion.

3 Data from the CEC for 2015 for total natural gas use for Sacramento County, multiplied by 58% to represent residential and commercial sector natural gas use (consistent with Table A2). Available at: https://ecdms.energy.ca.gov/gasbycounty.aspx.

4 Emissions based on PG&E and Climate Registry Emission Factors for natural gas provided in SCCAP Table 5 and IPCC Fourth Assessment Report Global Warming Potentials.

5 The percent change is assumed to be similar for Unincorporated Sacramento County (as shown in the SCCCAP) and the rest of the County.

6 As shown in Table 1, the sector target for Sacramento County Residential and Commercial GHG emissions is lower than the 2030 BAU projection and lower than the 2015 historical emissions. Therefore, there is no emissions budget available for new developments to produce natural gas emissions.

Abbreviations:

BAU - Business as Usual

CO_2e - carbon dioxide equivalence

SCCAP - Sacramento County Communitywide CAP

CEC - California Energy Commission

IPCC - Intergovernmental Panel on Climate Change

CEQA - California Environmental Quality Act

PG&E - Pacific Gas & Electric

Table A-8
Electricity Intensity Projections for SMUD
Greenhouse Gas CEQA Thresholds Update
Sacramento County, California

Historic Electricty Intensity

Annual Electricity Data	**2016[1,2]**	**2017[1,2]**	**2018[1,2]**	**Average[3]**	**Units**
CO_2 Intensity Factor per Total Energy Delivered	493	384	466	448	lbs CO_2/MWh delivered
% of Total Energy From RPS-Eligible Renewables	20%	19%	20%	19.7%	[-]
CO_2 Intensity Factor per Total Non-RPS-Eligible/Non-Renewable Energy[4]	616	474	583	557	lbs CO_2/MWh delivered

Estimated Intensity Factor for Total Energy Delivered

		Projected Electricity Intensity per MWh delivered[6]	
Model Year	**RPS %[5]**	**lbs CO_2/MWh**	**lbs CO_2e/MWh**
2020	**33%**	373	375
2021	35.8%	358	360
2022	38.5%	343	344
2023	41.3%	327	329
2024	**44%**	312	314
2025	47.0%	295	297
2026	**50%**	279	280
2027	**52%**	267	269
2028	54.7%	253	254
2029	57.3%	238	239
2030	**60%**	223	224
2031	62.7%	208	210
2032	65.3%	193	195
2033	68.0%	178	180
2034	70.7%	163	165
2035	73.3%	149	150
2036	76.0%	134	135
2037	78.7%	119	120
2038	81.3%	104	106
2039	84.0%	89	91
2040	86.7%	74	76
2041	89.3%	59	61
2042	92.0%	45	46
2043	94.7%	30	31
2044	97.3%	15	16
2045	**100%**	0	2

Notes:

1 Total CO_2 intensity factors from The Climate Registry. Available at: https://www.theclimateregistry.org/our-members/cris-public-reports/. Accessed: September, 2019. For 2018, data provided by SMUD.

2 Percent of total energy from eligible renewables is from the SMUD 2016, 2017, and 2018 Power Content Labels.

3 This average uses the most recent three years of data.

4 The emissions metric presented here is calculated based on the total CO_2 intensity factor divided by the percent of energy delivered from non-RPS-eligible or non-renewable sources. The intensity factor for total energy delivered is estimated by multiplying the percentage of energy delivered from non-RPS-eligible or non-renewable energy by the CO_2 emissions per total non-renewable energy metric calculated above. The estimate provided here assumes that renewable energy sources do not result in any CO_2 emissions. If newer information becomes available that results in a substantial change to the long-term assumed CO_2 intensity per non-RPS energy, this table should be updated.

5 Emission factors presented here are consistent with the requirements of SB 100: 33% RPS by 2020, 44% RPS by 2024, 50% RPS by 2026, 52% RPS by 2027, 60% RPS by 2030, and 100% carbon-free electricity for 2045. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100. Factors are interpolated for intervening (non-**bolded**) years.

6 Global Warming Potentials (GWP) are based on the IPCC Fourth Assessment Report. CH_4 and N_2O emission factors are from the eGRID2016 total output emission rates for California, and are conservatively assumed not to change from these estimates. Available at: https://www.epa.gov/sites/production/files/2018-02/documents/egrid2016_summarytables.pdf, Table 3. As more renewable energy is integrated into the electricity grid, these intensity factors will also decrease.

Abbreviations:

CARB - California Air Resources Board
CO_2 - carbon dioxide
GHG - greenhouse gases
RPS - Renewables Portfolio Standard
lbs - pounds
MWh - megawatt-hour
SB - Senate Bill
RPS - Renewable Portfolio Standards
SMUD - Sacramento Metropolitan Utility District
USEPA - US Environmental Protection Agency

Table A-9
Increases in Electricity Use to Replace Natural Gas
Greenhouse Gas CEQA Thresholds Update
Sacramento County, California

Commercial Energy Use Categories[1]

	Appliance Group	Percent of Total Annual Energy Use
Gas	Water Heaters	31%
	Space Heaters	44%
	Cooking (Oven + Cooktop)	18%
	Total (Water Heater, Space Heater, & Cooking)[2]	93%
Electric	**Appliance Group**	**Energy Use Index (kWh/ksf/year)**
	Water Heaters	341
	Space Heaters	1,037
	Cooking (Oven + Cooktop)	666
	Total (Water Heater, Space Heater, & Cooking)[3,8]	**2,045**

Residential Energy Use Categories[4]

	Appliance Group	Percent of Primary Natural Gas Energy Uses				
		Single Family Units	Town Homes	2-4 Unit Apartments	5+ Unit Apartments	Mobile homes
Gas[5]	**Water Heaters**	47%	68%	65%	76%	53%
	Conventional Heat	44%	21%	24%	13%	40%
	Cooking (Oven + Cooktop)	9%	11%	11%	12%	6%
	Total (Water Heater, Conventional Heat, & Cooking)	100%	100%	100%	100%	100%
Electric	**Appliance Group**	**Energy Use per Dwelling Unit (kWh/DU/year)**				
		Single Family Units	**Town Homes**	**2-4 Unit Apartments**	**5+ Unit Apartments**	**Mobile homes**
	Water Heaters	3,169	2,190	1,301	1,543	2,575
	Conventional Heat	1,171	501	552	570	739
	Cooking (Oven + Cooktop)	310	234	218	165	224
	Solar Water heater (Electric Backup)[6]	1,877	2,075	--	--	--
	Heat Pump	994	320	324	522	504
	Total (Water Heater, Conventional Heat, & Cooking)[7,8]	**4,650**	**2,925**	**2,071**	**2,278**	**3,538**

Notes

1. Commercial energy consumption by end-use is provided from the California Commercial End Use Survey for Sacramento Metropolitan Utility District (SMUD) for All Commercial Gas and Electric fuel types. For projects that do not fit the generic commercial definition, this same methodology and reference can be used by the project applicant to determine the electricity use for more specific building types.

2. This demonstrates that the majority of natural gas use in commercial buildings in the SMUD region (93%) is accounted for by these three appliance groups. Due to differences in efficiency between electric and natural gas appliances, the relative amount of energy used for each appliance group may vary if applied to electricity consumption.

3. For commercial projects that comply with BMP 1, the electricity use rates should be increased by this total per ksf. For projects that do not comply with BMP 1 and instead commit to one or two of the appliance groups to be electric, the electricity use can be increased by just the rate shown for the relevant appliance groups, and the CalEEMod default natural gas use rate can be decreased by the percent of natural gas from the appliance groups shown above.

4. Residential energy consumption data is provided per appliance type by the California Energy Commission (CEC) 2009 Residential Appliance Saturation Study. The CEC began an updated survey in 2019, but results are not yet available as of March, 2020.

Table A-9
Increases in Electricity Use to Replace Natural Gas
Greenhouse Gas CEQA Thresholds Update
Sacramento County, California

5. Natural Gas Energy Consumption estimates are presented only for homes with natural gas billing data. Due to variability in saturation rates of other natural gas appliances (e.g., spa heaters, auxiliary heating, gas dryers), these totals are assumed to sum to 100% for use in this methodology. If the applicants only electrify certain appliances and therefore use these percentages to calculate reductions from CalEEMod defaults, this is assumed to be a reasonable representation because the current Title 24 Building Energy Efficiency Standards are expected to reduce natural gas use more than what is reflected in the CalEEMod defaults.

6. Solar Water Heater data should be interpreted with caution given limited data due to low statewide saturation rates of residential solar water heater appliances.

7. For residential projects that comply with BMP 1, the electricity use rates should be increased by this total per DU. For projects that do not comply with BMP 1 and instead commit to one or two of the appliance groups to be electric, the electricity use can be increased by just the rate shown for the relevant appliance groups and the natural gas use can be reduced by the percent of natural gas from the appliance groups shown above. Heat pumps are more efficient than conventional electric heating, so projects that plan to use heat pumps can use the heat pump values instead of the conventional heat values.

8. Space heating and water heating are included in the Title 24 electricity and Title 24 natural gas energy usage categories of CalEEMod, while cooking and appliances are included in the non-title 24 electricity and natural gas energy usage categories.

Abbreviations

DU - Dwelling Unit
EF - Energy Factor
kBTU - thousand British Thermal Units
ksf - thousand square feet
kWh - kilowatt-hour

References

California Commercial End Use Survey, Annual Summary Statistics. Accessed February 2020. Available online at http://capabilities.itron.com/CeusWeb/Chart.aspx

2009. California Energy Commission. California Residential Appliance Saturation Study, Volume 2: Study Results. Accessible online at https://webtools.dnvgl.com/RASS2009/Uploads/2009_RASS_Volume%202_FINAL_101310.pdf

Table A-10
GHG Reductions due to Electric Vehicles
Greenhouse Gas CEQA Thresholds Update
Sacramento County, California

Estimating GHG Emissions Reduction to Replace Gasoline Vehicle with Electric Vehicle		
SMUD electricity emission factor[1]	0.10	(MT CO_2e/MWh)
Fuel Economy of Electric Vehicle[2]	0.25	(kWh/mile)
Electric Vehicle GHG Emissions[3]	25	(gms/mile)
Gasoline/Diesel CO_2e emission while running[4]	236	(gms/mile)
GHG Emissions Reduction from Additional Electric Vehicles, per mile	211	(gms/mile)
	89%	

Notes:

[1] CO_2e intensity factor for SMUD accounts for the 60% projected RPS for 2030 as shown in Table A-8.

[2] National Renewable Energy Laboratory (NREL), 2018. California Plug-In Electric Vehicle Infrastructure Projections: 2017-2025 (Table C.1). Available at: https://www.nrel.gov/docs/fy18osti/70893.pdf.

[3] Electric vehicle GHG emissions per mile are estimated based on the SMUD electricity emission factor (MT CO_2e/MWh) and the fuel economy of electric vehicles (KWh/mile).

[4] CARB, 2015. EMFAC2017, running and starting exhaust emission rate for CO_2 and CH_4 for light duty gasoline- and diesel-powered vehicles in Sacramento County, aggregated for all models and speeds, averaged over all seasons for 2030. Available at: http://www.arb.ca.gov/emfac/.

Abbreviations:

CARB - California Air Resources Board
CH_4 - methane
CO_2 - carbon dioxide
CO_2e - carbon dioxide equivalents
EMFAC - California Air Resources Board Emissions Factor Model
EV - electric vehicle
GHG - greenhouse gases
gms - grams
kWh - kilowatt-hour
MT - metric tonnes
MWh - megawatt-hour
SMUD - Sacramento Metropolitan Utility District

APPENDIX B
EV REGS AND COSTS

Appendix B Table 1. Electric Vehicle Infrastructure Requirements as of September, 2019.

CalGreen Background

-The California Building Energy Efficiency Standards Title 24 Part 11 ("CalGreen" Green Building Code) is a statewide building code with mandatory measures that apply to all new construction and additions or alterations of buildings in the state.

-The first CalGreen code was adopted in 2008, and it is updated approximately every 3 years to incorporate additional feasible measures with input from stakeholders including designers, architects, builders, property owners, businesses, the government and its agencies.

-The CalGreen code contains provisions on planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality.

-The California Building Standards Commission, Department of Housing and Community Development, Divison of the State Architect, all Office of Statewide Health Planning and Development all have specific scopes responsible for code adoption and enforcement.

Electric Vehicle Charging Infrastructure Definitions

CalGreen does not currently require installation of electric vehicle (EV) chargers but does require ***EV Capable spaces*** *as described in the table below, to avoid costly retrofits.*

EV supply equipment (EVSE, "chargers") require a dedicated circuit for each EVSE unit on the electrical panel; sufficient electrical capacity from the utility connection to the electrical panel; and sufficient electrical capacity at the panel. [1]

-EV Capable: "Installation of "raceway" (the enclosed conduit that forms the physical pathway for electrical wiring to protect it from damage) and adequate panel capacity to accommodate future installation of a dedicated branch circuit and charging station(s)."
<u>If 1 space is required:</u>
The raceway shall be capable of accommodating a 208/240-volt dedicated branch circuit, not less than trade size 1", shall originate at a service panel or subpanel serving the area, shall terminate in close proximity to the proposed location of the charging equipment and into a listed suitable cabinet, box, enclosure, or equivalent. The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE.
<u>If multiple spaces are required:</u>
Plan design shall be based upon 40-ampere minimum branch circuits. Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any on-site distribution transformers and have sufficient capacity to simultaneously charge all required EVs at its full rated amperage. The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.

-EV Ready: "Installation of dedicated branch circuit(s), circuit breakers, and other electrical components, including a receptacle or blank cover needed to support future installation of one or more charging stations" [2]

-Chargers: The physical device that the EV plugs into, e.g., devices from ChargePoint, AeroVironment, Blink, others.

2019 CalGreen Mandatory Measures (Title 24, Part 11), Effective 1/1/2020

Land Use Type	Requirements for New Construction	Ref
1-2 family dwelling units and townhouses with attached garages	EV Capable for every dwelling unit	3
Multifamily dwelling units with residential parking available	EV Capable for 10% of total parking spaces	4
Hotels and motels	EV Capable, # spaces depending on number of parking spaces: 0-9 spaces: 0 EV spaces 10-25: 1 26-50: 2 51-75: 4 76-100: 5 101-150: 7 151-200: 10 201+: 6 percent of total (rounded up)	5
Nonresidential	EV Capable, # spaces depending on number of parking spaces: 0-9 spaces: 0 EV spaces 10-25: 1 26-50: 2 51-75: 4 76-100: 5 101-150: 7 151-200: 10 201+: 6 percent of total (rounded up)	6

<u>**References:**</u>

[1] US Department of Energy. https://afdc.energy.gov/files/u/publication/evse_cost_report_2015.pdf

[2] California Air Resouces Board. https://arb.ca.gov/cc/greenbuildings/pdf/tcac2018.pdf

[3] 2019 CalGreen. Section 4.106.4.1. https://codes.iccsafe.org/content/chapter/15772

[4] 2019 CalGreen. Section 4.106.4.2. https://codes.iccsafe.org/content/chapter/15772

[5] 2019 CalGreen. Section 4.106.4.3. https://codes.iccsafe.org/content/chapter/15772

[6] 2019 CalGreen. Section 5.106.5.3. https://codes.iccsafe.org/content/chapter/15773

Appendix B Table 2. Potential Upcoming Requirements

CalGreen Proposed and Voluntary Standards

-CalGreen contains voluntary "Tier 1" and "Tier 2" standards that are not mandatory statewide but could be required by a City or County. These are 'reach' standards that can be adopted by local jurisdictions and may be incorporated as mandatory standards in future code cycles.

- Sacramento County does not currently require compliance with the voluntary standards, but the air district (SMAQMD), utility (SMUD), and Sacramento Area Council of Governments (SACOG) recently recommended that Sacramento County should require compliance with Tier 1 or Tier 2 CalGreen standards (see table below).[1]

Electric Vehicle Charging Infrastructure Definitions

CalGreen does not currently require installation of electric vehicle (EV) chargers, but proposed and Tier 1 or Tier 2 measures would require additional EV Capable or EV Ready spaces, as shown below.

EV supply equipment (EVSE, "chargers") require a dedicated circuit for each EVSE unit on the electrical panel; sufficient electrical capacity from the utility connection to the electrical panel; and sufficient electrical capacity at the panel. [2]

-EV Capable: "Installation of "raceway" (the enclosed conduit that forms the physical pathway for electrical wiring to protect it from damage) and adequate panel capacity to accommodate future installation of a dedicated branch circuit and charging station(s)."
<u>If 1 space is required:</u>
The raceway shall be capable of accommodating a 208/240-volt dedicated branch circuit, not less than trade size 1", shall originate at a service panel or subpanel serving the area, shall terminate in close proximity to the proposed location of the charging equipment and into a listed suitable cabinet, box, enclosure, or equivalent. The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE.
<u>If multiple spaces are required:</u>
Plan design shall be based upon 40-ampere minimum branch circuits. Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any on-site distribution transformers and have sufficient capacity to simultaneously charge all required EVs at its full rated amperage. The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.[1]

-EV Ready: "Installation of dedicated branch circuit(s), circuit breakers, and other electrical components, including a receptacle or blank cover needed to support future installation of one or more charging stations" [3]

-Chargers: The physical device that the EV plugs into, e.g., devices from ChargePoint, AeroVironment, Blink, others.

Source[a]	Land Use Type	Requirements for New Construction	Ref
2019 CalGreen Voluntary Measures (Tier 1)	1-2 family dwelling units and townhouses with attached garages	EV Ready for every dwelling unit	4
	Multifamily dwelling units	EV Capable for 15% of total parking spaces	4
	Nonresidential, and New hotels and motels	EV Capable, # spaces depending on number of parking spaces: 0-9 spaces: 0 EV spaces 10-25: 2 26-50: 3 51-75: 5 76-100: 7 101-150: 10 151-200: 14 201+: 8 percent of total (rounded up)	4,5
2019 CalGreen Voluntary Measures (Tier 2)	Multifamily dwelling units (any number of units)	EV Capable for 20% of total parking spaces	4
	Nonresidential, and New hotels and motels	EV Capable, # spaces depending on number of parking spaces: 0-9 spaces: 1 EV spaces 10-25: 2 26-50: 4 51-75: 6 76-100: 9 101-150: 12 151-200: 17 201+: 10 percent of total (rounded up)	4,5
City of Sacramento Final EV Strategy (December 2017)	New development projects	"Evaluate options to advance EV charging in new development projects citywide, such as **mandatory standards**, incentives, and educational programs..."	6

Appendix B Table 2. Potential Upcoming Requirements

Source[a]	Land Use Type	Requirements for New Construction	Ref
Sacramento County EV Readiness and Infrastructure Plan (June 2017), Prepared by the air district (SMAQMD), utility (SMUD), and Sacramento Area Council of Governments (SACOG), Clean Cities Coalition, and other contributors	Recommendations for County of Sacramento	"-Adopt Tier 1 or Tier 2 voluntary green building codes to increase the number of EV charging ready parking spaces and parking standards for multifamily and non-residential projects. -Research the cost and policy implications of requiring the installation of EV chargers in new multifamily dwelling units and/or commercial centers adjacent to MF complexes. -Require all new Master Plans and Specific Plans to address and incorporate EV charging infrastructure."	1
Mayor's Commission on Climate Change	Potential Mobility Implementation Tactics for Sacramento Region, July 2019	"-Adopt Tier 2 of the CA Green Building Code for new parking structures/lots to require installation of EV chargers and dedicated EV parking spaces for new non-residential garages, MUDs, hotels. -Extend EV Infrastructure code with Reach Codes such as specific in the Peninsula Reach Code: -MUDs: One EV Ready circuit per dwelling. 25% of spaces to be Level 2 EV Ready, 75% are either Level 1 EV Ready or Level 2 EV Ready with load management -Non-Res: 10% Level 2 EVSE Installed, 10% Level 1 EV Ready with L2 conduit; on-grade parking: 50% Level 2 EV Capable, Panel Capacity, average 2kW/ EV space; underground or deck parking: 100% Level 2 EV Capable; Panel Capacity, average 1kW/ EV space "	7

References:

[0] California Building Standards Commission. http://www.bsc.ca.gov/Rulemaking/adoptcycle/2018TriennialCodeAdoptionCycle/ComMtg1-2019.aspx

[1] Sacramento Area PEV Collective. 2017. Page 26. http://www.cleancitiessacramento.org/uploads/2/7/8/6/27862343/sac_county_ev_inf_planfinal_6-20-17.pdf

[2] US Department of Energy. https://afdc.energy.gov/files/u/publication/evse_cost_report_2015.pdf

[3] California Air Resouces Board. https://arb.ca.gov/cc/greenbuildings/pdf/tcac2018.pdf

[4] 2019 CalGreen. Section A4.106.8. https://codes.iccsafe.org/content/chapter/15777

[5] 2016 CalGreen. Section A5.106.5.3. https://codes.iccsafe.org/content/chapter/15778

[6] Section 1.2. https://www.cityofsacramento.org/-/media/Corporate/Files/Public-Works/Electric-Vehicles/EVStrategy_171206_FINAL_DRAFT_CityOfSacramento.pdf?la=en

[7] Mayors' Commission on Climate Change. https://www.lgc.org/wordpress/wp-content/uploads/2019/07/Potential-Mobility-Implementation-Tactics.p

Appendix B Table 3. Estimated Costs for EV Ready and EV Supply Equipment

Type	Stage of Infrastructure [a,b,c]	
	EV Full Wiring ("EV Ready")	EV Supply Equipment ("Chargers") [d]
Single Family Residential	~$250/home [1]	$500-$2,000 per Level 2 charge point (before rebates)
Commercial/Multifamily, Surface Parking	~$760-$830/space [2,3]	
Commercial/Multifamily, Enclosed Garage	~$280/space [2], ~10% of total electrical work cost for large parking lots [3]	

Notes:

[a] -EV Capable: "Installation of "raceway" (the enclosed conduit that forms the physical pathway for electrical wiring to protect it from damage) and adequate panel capacity to accommodate future installation of a dedicated branch circuit and charging station(s)." Required as noted in Table 1, so costs are not shown.
-EV Ready: "Installation of dedicated branch circuit(s), circuit breakers, and other electrical components, including a receptacle or blank cover needed to support future installation of one or more charging stations" [2]
-Chargers: The physical device that the EV plugs into, e.g., devices from ChargePoint, AeroVironment, Blink, others.

[b] EV supply equipment require a dedicated circuit for each EVSE unit on the electrical panel; sufficient electrical capacity from the utility connection to the electrical panel; and sufficient electrical capacity at the panel. [4]

[c] 2019 CalGreen mandatory measures include EV capacity, to avoid more costly retrofitting as EV adoption increases. EV full wiring is still voluntary as of September, 2019. [3]

[d] SMUD has rebates to cover most of the cost of charging equipment in single-family homes, multifamily homes, and workplaces. [5]

References:

[1] http://energy-solution.com/wp-content/uploads/2015/01/Reducing-Barriers-to-Electric-Vehicle-Adoption-through-Building-Codes_EnergySolutions_ACEEE-2012.pdf
[2] https://arb.ca.gov/cc/greenbuildings/pdf/tcac2018.pdf
[3] https://arb.ca.gov/cc/greenbuildings/pdf/tcac2015.pdf
[4] https://afdc.energy.gov/files/u/publication/evse_cost_report_2015.pdf
[5] https://www.smud.org/en/Going-Green/Electric-Vehicles/Business

APPENDIX C
Building Energy

Appendix C-1
Non-Residential Natural Gas Use from Space Heating & Cooling, Water Heating, Cooking
Greenhouse Gas CEQA Thresholds Update
Sacramento County, California

End Use[1]	End Use Floor Stock (KSF)	Annual Natural Gas Use (10,000 therms)[1]	Percent of Total NG Use	Energy Use Index (therms/ksf/yr)	Energy Use Index (kBTU/ksf/yr)
Heating	135,072	2,710	44.3%	201	20,059
Cooling	0	0	0.0%	--	--
Water Heating	105,832	1,883	30.8%	178	17,788
Cooking	67,170	1,088	17.8%	162	16,194
Miscellaneous	15,962	165	2.7%	103	10,335
Process	7,948	275	4.5%	346	34,592
Segment Total	227,831	6,121	100.0%	269	26,860
Percent of Annual Natural Gas Use from Heating, Water Heating, and Cooking		93%			

Notes:

1. End use data from California Commercial End Use Survey, with SMUD, all commercial buildings, and natural gas settings.

Abbreviations:

kBTU - thousand British Thermal Units
ksf - thousand square feet
NG - natural gas
yr - year

References:

California Commercial End Use Survey, Annual Summary Statistics. Accessed February 2020. Available online at http://capabilities.itron.com/CeusWeb/Chart.aspx

Appendix C-2

Non-Residential Electric Use from Space Heating & Cooling, Water Heating, Cooking
Greenhouse Gas CEQA Thresholds Update
Sacramento County, California

End Use[1]	End Use Floor Stock (KSF)	Annual Electricity Use (GWh)[1]	Percent of Total Elec Use	Energy Use Index (kWh/ksf/yr)
Heating	116,632	121	3%	1,037
Cooling	184,121	546	15%	2,965
Ventilation	188,858	531	14%	2,812
Water Heating	117,243	40	1%	341
Cooking	198,227	132	4%	666
Miscellaneous	214,149	241	6%	1,125
Process	7,283	12	0%	1,648
Segment Total	227,831	3,759	100%	16,499
Percent of Annual Electricity Use from Heating, Water Heating, and Cooking		8%		

Notes:

1. End use data from California Commercial End Use Survey, with SMUD, all commercial buildings, and electricity settings.

Abbreviations:

GWh - gigawatt-hour

ksf - thousand square feet

kWh - kilowatt-hour

yr - year

Reference:

California Commercial End Use Survey, Annual Summary Statistics. Accessed February 2020. Available online at http://capabilities.itron.com/CeusWeb/Chart.aspx

Appendix C-3
Residential Unit Energy Consumption for Natural Gas and Electric End Uses
Greenhouse Gas CEQA Thresholds Update
Sacramento County, California

Natural Gas Energy Consumption per appliance (therms)[1,3]

Appliance Group	Housing Type				
	Single Family Units	**Town Homes**	**2-4 Unit Apartments**	**5+ Unit Apartments**	**Mobile Homes**
All Household	425	247	232	150	352
Water heater	195	189	186	183	193
Primary Heat	184	59	68	31	146
Range/Oven	36	32	33	28	23
Solar Water heater (Gas backup)[2]	164	133	143	165	147
Auxillary Heat	118	38	61	49	70

Electricity Energy Consumption per appliance (kWh)[1]

Appliance Group	Housing Type				
	Single Family Units	**Town Homes**	**2-4 Unit Apartments**	**5+ Unit Apartments**	**Mobile Homes**
All Household	7605	4561	3821	3709	5580
Water heater	3,169	2,190	1,301	1,543	2,575
Conventional Heat	1,171	501	552	570	739
Range/Oven	310	234	218	165	224
Solar Water heater (Electric Backup)[2]	1,877	2,075	--	--	--
Heat Pump	994	320	324	522	504
Auxillary Heat	382	86	62	99	342

Notes:

1. Energy Consumption estimates are given per dwelling unit, assuming 1 appliance per dwelling unit. Consumption data from California Residential Appliance Saturation Study.
2. Given the low saturation rate of Solar Water Heaters in residential units, estimates should be interpreted with caution.
3. Natural Gas Energy Consumption estimates are presented only for homes with natural gas billing data.

Abbreviations:

kWh - kilowatt-hour

References:

2009. California Energy Commission. California Residential Appliance Saturation Study, Volume 2: Study Results. Accessible online at https://webtools.dnvgl.com/RASS2009/Uploads/2009_RASS_Volume%202_FINAL_101310.pdf