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MEMORANDUM

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Subject:	Mission Village Shopping Center Project – Greenhouse Gas Emissions Technical Memorandum

PURPOSE

The purpose of this technical memorandum is to evaluate potential greenhouse gas (GHG) impacts resulting from the construction and operation of the proposed Mission Village Shopping Center Project (project), located in the City of Jurupa Valley (City), California.

PROJECT LOCATION

The City is located in the County of Riverside (County) and east side of Interstate 15 (I-15). State Route 60 (SR-60) traverses the City in a west-east orientation.

The project site encompasses approximately 8.3 acres (APNs 182-031-001, 182-031-002, and 182-022-002) generally bounded by Mission Boulevard to the north and Stobbs Way to the west. Access to the site occurs from Mission Boulevard, Stobbs Way, and the adjacent property to the east.

EXISTING SITE CONDITIONS

The project site is currently developed with retail buildings and associated surface parking lot. The project site is designated Commercial Retail (CR)¹ in the City of Jurupa Valley General Plan (General Plan) and zoned C-1/C-P (General Commercial)² in the City's Municipal Code.

PROJECT DESCRIPTION

The project would involve demolition of existing buildings and surface parking lot on-site and construction of a shopping center with a surface parking lot. The proposed shopping center would be approximately 78,325 square feet in total, consisting of four retail spaces totaling 34,600 square feet, a 18,000-square-foot grocery store, a 18,000-square-foot fitness center, a 2,900-square-foot fast food restaurant with drive-through, a 3,825-square-foot carwash facility, a 1,000-square-foot restaurant, and 411 parking

¹ City of Jurupa Valley, *Land Use Element*, 2017, https://www.jurupavalley.org/DocumentCenter/View/217/2017-Master-General-Plan-PDF, accessed August 25, 2022.

² City of Jurupa Valley, *Zoning Map*, January 2019, https://www.jurupavalley.org/DocumentCenter/View/526/Zoning-Map-PDF, accessed August 25, 2022.

spaces. The project would provide 305 regular parking spaces, 29 compact parking spaces, 17 accessible parking spaces, 25 electric vehicle parking spaces, 33 clean air vehicle parking spaces, one family parking space, and one veteran's parking space in a surface parking lot on-site.

Project construction would occur over approximately 10 months, beginning in November 2022. Construction of the project would include the following phases: demolition, grading, building construction, paving, and architectural coatings. It is anticipated that the project would be completed and operational in 2023.

GLOBAL CLIMATE CHANGE

California is a substantial contributor of global greenhouse gases (GHGs), emitting over 418 million metric tons of carbon dioxide equivalent (MTCO₂e) per year.³ Methane (CH₄) is also an important GHG that potentially contributes to global climate change. GHGs are global in their effect, which is to increase the earth's ability to absorb heat in the atmosphere. As primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation will be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

The impact of human activities on global climate change is apparent in the observational record. Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of CO_2 , CH_4 , and nitrous oxide (N₂O) from before the start of industrialization (approximately 1750), to over 650,000 years ago. For that period, it was found that CO_2 concentrations ranged from 180 to 300 parts per million (ppm). For the period from approximately 1750 to the present, global CO_2 concentrations increased from a pre-industrialization period concentration of 280 to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range. As of August 2022, the highest monthly average concentration of CO_2 in the atmosphere was recorded at 420 ppm.⁴

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of GHGs at 400 to 450 ppm carbon dioxide equivalent $(CO_2e)^5$ concentration is required to keep global mean warming below 2 degrees Celsius (°C), which in turn is assumed to be necessary to avoid dangerous climate change.

³ California Air Resources Board, *California Greenhouse Gas Emissions for 2000 to 2019,* https://ww2.arb.ca.gov/sites/default/files/classic/cc/ghg_inventory_trends_00-19.pdf, accessed August 25, 2022.

⁴ Scripps Institution of Oceanography, *Carbon Dioxide Concentration at Mauna Loa Observatory*, https://scripps.ucsd.edu/programs/keelingcurve/, accessed August 25, 2022.

 $^{^{5}}$ Carbon Dioxide Equivalent (CO₂e) – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

REGULATORY SETTING

Federal

To date, no national standards have been established for nationwide GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level. Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

<u>Energy Independence and Security Act of 2007</u>. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, requires the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

<u>U.S. Environmental Protection Agency Endangerment Finding</u>. The U.S. Environmental Protection Agency's (EPA) authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs (CO₂, CH₄, N₂O, hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulfur hexafluoride [SF₆]) constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and the EPA's assessment of the scientific evidence that form the basis for the EPA's regulatory actions.

<u>Presidential Executive Order 13783</u>. Presidential Executive Order 13783, Promoting Energy Independence and Economic Growth (March 28, 2017), orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

<u>Federal Vehicle Standards</u>. In response to the U.S. Supreme Court ruling discussed above, the George W. Bush Administration issued Executive Order 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.

In March 2021, The EPA and NHTSA adopted the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule. The SAFE Vehicles Rule sets tough but feasible fuel economy and CO₂ standards that increase 1.5 percent in stringency each year from model years 2021 through 2026. These standards apply to both passenger cars and light trucks, and will continue the nation's progress toward energy independence and CO₂ reduction, while recognizing the realities of the marketplace and consumers' interest in buying vehicles that meet all of their diverse needs.

State

The State of California has adopted various administrative initiatives and legislation relating to climate change, much of which set aggressive goals for GHG emissions reductions statewide. Although lead agencies must evaluate climate change and GHG emissions of projects subject to California Environmental Quality Act (CEQA), the CEQA Guidelines do not require or suggest specific methodologies for performing an assessment or specific thresholds of significance and do not specify GHG reduction mitigation measures. Instead, the guidelines allow lead agencies to choose methodologies and make significance determinations based on substantial evidence, as discussed in further detail below. No state agency has promulgated binding regulations for analyzing GHG emissions, determining their significance, or mitigating significant effects in CEQA documents. Thus, lead agencies exercise their discretion in determining how to analyze GHGs.

Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is occurring, and that there is a real potential for severe

adverse environmental, social, and economic effects in the long term. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation will be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

<u>Executive Order S-3-05</u>. Executive Order S-3-05 set forth a series of target dates by which Statewide emissions of GHGs would be progressively reduced, as follows:

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

The Executive Order directed the secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary also submits biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of Cal/EPA created the California Climate Action Team (CAT), made up of members from various State agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

<u>Executive Order B-30-15</u>. Executive Order B-30-15 added the interim target to reduce statewide GHG emissions 40 percent below 1990 levels by 2030.

<u>Executive Order S-13-08</u>. Executive Order S-13-08 seeks to enhance the State's management of climate impacts including sea level rise, increased temperatures, shifting precipitation, and extreme weather events by facilitating the development of State's first climate adaptation strategy. This will result in consistent guidance from experts on how to address climate change impacts in the State of California.

<u>California Global Warming Solutions Act (Assembly Bill 32)</u>. The primary act that has driven GHG regulation and analysis in California include the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) (Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599), which instructs the California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The act directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. The heart of the bill is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020.

<u>Assembly Bill 3018</u>. AB 3018 established the Green Collar Jobs Council (GCJC) under the California Workforce Investment Board (CWIB). The GCJC will develop a comprehensive approach to address California's emerging workforce needs associated with the emerging green economy. This bill will ignite the development of job training programs in the clean and green technology sectors.

Senate Bill 97. SB 97, signed in August 2007 (Chapter 185, Statutes of 2007; PRC Sections 21083.05 and 21097), acknowledges that climate change is a prominent environmental issue that requires analysis

under CEQA. This bill directs the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions (or the effects of GHG emissions), as required by CEQA.

OPR published a technical advisory recommending that CEQA lead agencies make a good-faith effort to estimate the quantity of GHG emissions that would be generated by a proposed project. Specifically, based on available information, CEQA lead agencies should estimate the emissions associated with project-related vehicular traffic, energy consumption, water usage, and construction activities to determine whether project-level or cumulative impacts could occur, and should mitigate the impacts where feasible. OPR requested CARB technical staff to recommend a method for setting CEQA thresholds of significance as described in CEQA Guidelines Section 15064.7 that will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

The Natural Resources Agency adopted the CEQA Guidelines Amendments prepared by OPR, as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the CEQA Guidelines Amendments and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Guidelines Amendments became effective on March 18, 2010.

<u>Senate Bill 375</u>. SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPOs regional transportation plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects may not be eligible for funding programmed after January 1, 2012.

<u>Senate Bill 1368</u>. SB 1368 (Chapter 598, Statutes of 2006) is the companion bill of AB 32 and was signed into law in September 2006. SB 1368 required the California Public Utilities Commission (CPUC) to establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007. SB 1368 also required the CEC to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas fired plant. Furthermore, the legislation states that all electricity provided to California, including imported electricity, must be generated by plants that meet the standards set by CPUC and CEC.

<u>Senate Bill 32 (SB 32)</u>. Signed into law in September 2016, SB 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB also must adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

<u>CARB Scoping Plan</u>. On December 11, 2008, CARB adopted its Scoping Plan, which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations.

CARB's Scoping Plan contains the main strategies California will implement to reduce GHG emissions by 174 MMTCO₂e, or approximately 30 percent, from the State's projected 2020 emissions level of 596 MMTCO₂e under a business-as-usual (BAU)⁶ scenario. This is a reduction of 42 MMTCO₂e, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

CARB's Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes recent science related to climate change, including anticipated impacts to California and the levels of GHG reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The Scoping Plan update also looks beyond 2020 toward the 2050 goal, established in Executive Order S-3-05, and observes that "a mid-term statewide emission limit will ensure that the State stays on course to meet our long-term goal." The Scoping Plan update did not establish or propose any specific post-2020 goals, but identified such goals adopted by other governments or recommended by various scientific and policy organizations.

In December 2017, CARB approved the *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target*. This update focuses on implementation of a 40 percent reduction in GHGs by 2030 compared to 1990 levels. To achieve this the updated Scoping Plan draws on a decade of successful programs that addresses the major sources of climate changing gases in every sector of the economy:

- <u>More Clean Cars and Trucks</u>: The plan sets out far-reaching programs to incentivize the sale of millions of zero-emission vehicles, drive the deployment of zero-emission trucks, and shift to a cleaner system of handling freight statewide.
- <u>Increased Renewable Energy</u>: California's electric utilities are ahead of schedule meeting the requirement that 33 percent of electricity come from renewable sources by 2020. The Scoping Plan guides utilities to 50 percent renewables, as required under SB 350.
- <u>Slashing Super-Pollutants</u>: The plan calls for a significant cut in super-pollutants such as methane and HFC refrigerants, which are responsible for as much as 40 percent of global warming.
- <u>Cleaner Industry and Electricity</u>: California's renewed cap-and-trade program extends the declining cap on emissions from utilities and industries and the carbon allowance auctions. The

⁶ "Business-as-Usual" refers to emissions that would be expected to occur in the absence of GHG reductions. See http://www.arb.ca.gov/cc/inventory/data/bau.htm. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.

auctions will continue to fund investments in clean energy and efficiency, particularly in disadvantaged communities.

- <u>Cleaner Fuels</u>: The Low Carbon Fuel Standard will drive further development of cleaner, renewable transportation fuels to replace fossil fuels.
- <u>Smart Community Planning</u>: Local communities will continue developing plans which will further link transportation and housing policies to create sustainable communities.
- *Improved Agriculture and Forests*: The Scoping Plan also outlines innovative programs to account for and reduce emissions from agriculture, as well as forests and other natural lands.

Achieving the 2030 target under the updated Scoping Plan will also spur the transformation of the California economy and fix its course securely on achieving an 80 percent reduction in GHG emissions by 2050, consistent with the global consensus of the scale of reductions needed to stabilize atmospheric GHG concentrations at 450 ppm CO₂ and reduce the likelihood of catastrophic climate change. <u>Table 1</u>, <u>California State Climate Change Legislation</u>, provides a brief overview of other California legislation relating to climate change that may affect emissions associated with the proposed project.

Table 1California State Climate Change Legislation

Legislation	Description
Assembly Bill 1493	Assembly Bill 1493 ("the Pavley Standard") (Health and Safety Code Sections 42823 and 43018.5) aims to
and Advanced	reduce GHG emissions from noncommercial passenger vehicles and light-duty trucks of model years 2009 to
Clean Cars	2016. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer CO ₂ e
Program	emissions and 75 percent fewer smog-forming emissions.
Low Carbon Fuel	Executive Order S-01-07 (2007) requires a 10 percent or greater reduction in the average fuel carbon intensity
Standard	for transportation fuels in California. The regulation took effect in 2010 and is codified at Title 17, California
	Code of Regulations, Sections 95480–95490. The Low Carbon Fuel Standard will reduce GHG emissions by
Descentition	reducing the carbon intensity of transportation fuels used in California by at least 10 percent by 2020.
Renewables	California's Renewables Portfolio Standard (RPS) requires retail sellers of electric services to increase
Portiolio Standard	producement from eligible renewable energy resources to 33 percent of total retail sales by 2020. The 35
Senate Bill 350	350 in 2015 undates the RPS to require the amount of electricity generated and sold to retail customers per
and Senate Bill	year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030. The hill
100)	will make other revisions to the RPS program and to certain other requirements on public utilities and publicly
100)	owned electric utilities. The passage of Senate Bill 100 in 2018 further requires achieving 60 percent renewable
	energy resources target by 2030, and 100 percent renewable energy resources target by 2045.
Senate Bill 375*	SB 375 took effect in 2008 and provides a new planning process to coordinate land use planning, regional
	transportation plans, and funding priorities to help California meet the GHG reduction goals established in AB
	32. SB 375 requires metropolitan planning organizations to incorporate a sustainable communities' strategy in
	their regional transportation plans that will achieve GHG emissions reduction targets by reducing vehicle miles
	traveled from light-duty vehicles through the development of more compact, complete, and efficient
	communities. SB 375 requires CARB to periodically update the targets, no later than every 8 years. CARB is
	In the process of updating targets, with the intent to make them effective in 2018. SCSs adopted in 2018 would
California Building	be subject to the updated targets.
	huilding components to conserve energy. The California Energy Commission undates the Building Energy
Standards	Efficiency Standards every three years by working with stakeholders in a public and transparent process. The
Oldridardo	2019 Building Energy Efficiency Standards contained in the California Code of Regulations. Title 24. Part 6
	(also known as the California Energy Code) took effect on January 1, 2019. The 2019 Building Energy
	Efficiency Standards are 7 percent more efficient than previous standards for residential construction and once
	rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53
	percent less energy than those under the 2016 standards.
California Green	The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly
Building Standards	referred to as the CALGreen Code, is a statewide mandatory construction code developed and adopted by
	the California Building Standards Commission and the Department of Housing and Community Development.
	The CALGreen standards require new residential and commercial buildings to comply with mandatory
	measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material
	conservation and resource enciency, and environmental quality. CALGreen also provides voluntary tiers and
	building tonics. The most recent undate to the CAI Green Code went into effect January 1, 2020
Senate Bill 32	Signed into law in Sentember 2016, SB 32 codifies the 2030 target in the recent Executive Order B-30-15. The
(Amendments to	bill authorizes the state board to adopt an interim GHG emissions level target to be achieved by 2030. SB 32
California Global	states that the intent is for the legislature and appropriate agencies to adopt complementary policies which
Warming Solutions	ensure that the long-term emissions reductions advance specified criteria. In December 2017, CARB approved
Act of 2006:	the California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse
Emission Limit)	Gas Target that provides guidance for compliance with SB 32.
*Senate Bill 375 is codi and 65080.01. as well	fied at Government Code Sections 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588, 14522.1, 14522.2, as at Public Resources Code Sections 21061.3 and 21159.28 and Chapter 4.2.

Regional

South Coast Air Quality Management District

In 2008, SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds.⁷ Within its October 2008 document, the SCAQMD proposed the use of a percent emission reduction target to determine significance for commercial/residential projects that emit greater than 3,000 metric tons carbon dioxide equivalent (MTCO₂e) per year. Under this proposal, commercial/residential projects that emit fewer than 3,000 MTCO₂e per year would be assumed to have a less than significant impact on climate change. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold of 10,000 MTCO₂e per year for stationary source/industrial projects where the SCAQMD is the lead agency. However, the SCAQMD has yet to adopt a GHG significance threshold for application by local lead agencies in their review of land use development projects (e.g., residential/commercial projects).

Southern California Association of Governments

On September 3, 2020, the Regional Council of SCAG formally adopted *The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments – Connect SoCal* (2020–2045 RTP/SCS). The SCS portion of the 2020-2045 RTP/SCS highlights strategies for the region to reach the regional target of reducing GHGs from autos and light-duty trucks by 8 percent per capita by 2020, and 19 percent by 2035 (compared to 2005 levels). Specially, these strategies are:

- Focus growth near destinations and mobility options;
- Promote diverse housing choices;
- Leverage technology innovations;
- Support implementation of sustainability policies; and
- Promote a green region.

Furthermore, the 2020-2045 RTP/SCS discusses a variety of land use tools to help achieve the statemandated reductions in GHG emissions through reduced per capita vehicle miles traveled (VMT). Some of these tools include center focused placemaking, focusing on priority growth areas, job centers, transit priority areas, as well as high quality transit areas and green regions.

Subregional Climate Action Plan

The City of Jurupa Valley is a member of the Western Riverside Council of Governments (WRCOG). The Western Riverside Council of Governments (WRCOG) tactic to mitigating climate change is to take a unified, collaborative approach and develop a Subregional Climate Action Plan (CAP). Twelve cities in the subregion have joined efforts to develop this Subregional CAP, which sets forth a subregional emissions reduction target, emissions reduction measures, and action steps to assist each community to demonstrate consistency with AB 32. The objectives are to create more livable, equitable, and economically vibrant communities. By using energy more efficiently, harnessing renewable energy to

⁷ South Coast Air Quality Management District, *Draft Guidance Document—Interim CEQA Greenhouse Gas (GHG)* Significance Threshold, October 2008.

power buildings, enhancing access to sustainable transportation modes, recycling waste, conserving water, and building local food systems, the region can keep dollars in the local economy, create new green jobs, and improve public health and community quality of life. By integrating these elements, the WRCOG Subregional CAP will:

- Create local jobs.
- Promote healthier communities.
- Become more energy self-sufficient.
- Enhance social Equity.
- Reduce emissions, improve air quality, and protect natural systems.
- Save money.

The GHG reduction targets and reduction measures in the Subregional CAP were set to be achieved by 2020. As the proposed project would be operational after 2020, the Subregional CAP is not considered for the consistency analysis in this memorandum.

Local

City of Jurupa Valley General Plan

The City adopted the General Plan in September 2017. The General Plan Air Quality Element includes goals, policies, and programs that would reduce GHG emissions generated by land uses within the City. The following policy is applicable to the project:

Policy AQ 9.5 GHG Thresholds. Utilize the SCAQMD Draft GHG thresholds to evaluate development proposals until the City adopts a Climate Action Plan (CAP).

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) THRESHOLDS

The environmental analysis in this memorandum is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines*, as amended. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (refer to Impact GHG-1); and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases (refer to Impact GHG-2).

IMPACT ANALYSIS

Impact GHG-1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Project-Related Sources of Greenhouse Gases

Less Than Significant Impact. According to the City's General Plan Policy AQ 9.5, the SCAQMD interim CEQA GHG significance thresholds need to be utilized to evaluate development proposals until the City adopts a Climate Action Plan (CAP). As the City has yet to adopt a CAP, the City determined that the SCAQMD's interim threshold of 3,000 MTCO₂e per year is appropriate for the proposed project. If emissions exceed 3,000 MTCO₂e per year, the analysis would be required to identify mitigation measures that reduce emissions to below this level if feasible.

The proposed project would result in direct and indirect emissions of CO₂, N₂O, and CH₄, and would not result in other GHGs that would facilitate a meaningful analysis. Therefore, this analysis focuses on these three forms of GHG emissions. Direct project-related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from energy consumption, water demand, and solid waste generation. The California Emissions Estimator Model (CalEEMod), version 2020.4.0, was used to calculate direct and indirect project-related GHG emissions. Table 2, *Estimated Greenhouse Gas Emissions*, presents the estimated CO₂, N₂O, and CH₄ emissions of the proposed project. CalEEMod outputs are contained within <u>Appendix A</u>, <u>Greenhouse Gas Emissions Data</u>.

	CO ₂	CO ₂ CH ₄		N ₂ O		Total Motrio
Source	Metric tons/year ¹	Metric tons/year ¹	Metric tons of CO ₂ e ^{1,3}	Metric tons/year ¹	Metric tons of CO ₂ e ^{1,3}	Tons of CO ₂ e ^{2,3}
Direct Emissions						
Construction (amortized over 30 years) ⁴	18.40	<0.01	0.09	<0.01	0.16	18.64
Area Source	0.01	0.00	0.00	0.00	0.00	0.01
Mobile Source	2,427.61	0.18	4.40	0.15	43.36	2,475.36
Total Direct Emissions	2,446.02	0.18	4.48	0.15	43.52	2,494.01
Indirect Emissions						
Energy Consumption	368.58	0.02	0.60	<0.01	1.39	370.57
Solid Waste	41.12	2.43	60.76	0.00	0.00	101.88
Water Demand	24.75	0.19	4.87	<0.01	1.42	31.04
Total Indirect Emissions	434.44	2.65	66.22	0.01	2.82	503.48
Total Project-Related Emissions ³	d Emissions ³		2,997.49 M	TCO₂e/year		
SCAQMD Threshold	3,000 MTCO2e/year					
Exceed Threshold?			N	lo		

Table 2	
Estimated Greenhouse Gas	Emissions

Notes:

Carbon dioxide equivalent = CO₂e; metric tons of carbon dioxide equivalent per year = MTCO₂e per year

1. Project emissions were calculated using CalEEMod version 2020.4.0, as recommended by the SCAQMD.

2. Totals may be slightly off due to rounding.

3. Carbon dioxide equivalent values calculated using the U.S. Environmental Protection Agency Website, *Greenhouse Gas Equivalencies Calculator*, http://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed August 23, 2022.

4. Total project construction GHG emissions equate to 559.3 MTCO₂e. Value shown is amortized over the lifetime of the project (assumed to be 30 years). Refer to <u>Appendix A, Greenhouse Gas Emissions Data</u>, for detailed model input/output data.

Direct Project-Related Source of Greenhouse Gases

<u>Construction Emissions</u>. Construction GHG emissions are amortized (i.e., total construction emissions divided by the lifetime of the project, assumed to be 30 years),⁸ then added to the operational emissions. As seen in <u>Table 2</u>, construction of the proposed project would result in a total of 18.64 MTCO₂e (amortized over 30 years).

<u>Area Source</u>. The project would result in nominal area source emissions; refer to <u>Table 2</u>. Area source emissions would be generated due to an increased demand for natural gas associated with the development of the proposed project. The primary use of natural gas producing area source emissions by the project would be for consumer products, architectural coating, hearth, and landscaping.

<u>Mobile Source Emissions</u>. According to the *Mission Village Shopping Center Transportation Impact Analysis* (Transportation Impact Analysis) developed by Translutions, Inc. (dated May 2022)⁹, the proposed project would generate 4,659 daily trips. It should be noted that CalEEMod default trip length of 8.4 miles per trip for commercial development located within SCAQMD jurisdiction was reduced to 3 miles per trip to account for the proposed project's location in a high-density area. According to the project study area of the Transportation Impact Analysis and an aerial review of the project's vicinity, the majority of the project's trips would come from nearby residential communities located within 3 miles. There are several local retail centers within 3 miles radius of the project site. Therefore, the trip length assumption of 3 miles per trip is appropriate for the project. As such, the project would result in approximately 2,475.36 MTCO₂e per year of mobile source generated GHG emissions; refer to <u>Table 2</u>.

Indirect Project-Related Source of Greenhouse Gases

<u>Energy Consumption</u>. Energy consumption emissions were calculated using the CalEEMod model and project-specific land use data. Electricity would be provided to the project site via Southern California Edison. The project would exceed 2019 Title 24 standards by 10 percent, and install high efficiency lighting fixtures that would be 10 percent more efficient than 2019 Title 24 standards. These project design features would reduce energy source emissions and have been accounted for in <u>Table 2</u>. The project would indirectly result in 370.57 MTCO₂e/year of GHG emissions due to energy consumption; refer to <u>Table 2</u>.

<u>Water Demand</u>. Based on data from the Western Car Wash Association, each professional car wash consumes up to 12 gallons of water.¹⁰ The car wash facility of the proposed project would generate 597 average daily trips (not considering the pass-by trips credit). As a conservative analysis, all the trips were assumed to consume 12 gallons of water. Water consumption from other retail uses of the proposed project were calculated using CalEEMod default values. Emissions from indirect energy impacts due to water supply would result in 31.04 MTCO₂e/year; refer to Table 2.

<u>Solid Waste</u>. Solid waste associated with operations of the proposed project would result in 101.88 $MTCO_2e/year$; refer to <u>Table 2</u>.

⁸ In accordance with the SCAQMD guidance, projected GHGs from construction have been quantified and amortized over 30 years, which is the number of years considered to represent the life of the project. The amortized construction emissions are added to the annual average operational emissions.

Translutions, Inc., Mission Village Shopping Center Transportation Impact Analysis, May 2022.

¹⁰ Western Carwash Association, *Water Conservation*, https://www.wcwa.org/page/WaterConservation, accessed August 23, 2022.

Total Project-Related Sources of Greenhouse Gases

As shown in <u>Table 2</u>, the total amount of proposed project-related GHG emissions from direct and indirect sources combined would total 2,997.49 MTCO₂e/year. Therefore, project GHG emissions would not exceed the SCAQMD threshold of 3,000 MTCO₂e per year. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

Impact GHG-2: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact.

Consistency with Applicable GHG Plans, Policies, or Regulations

The GHG plan consistency analysis for the project is based on the project's consistency with the 2020-2045 RTP/SCS and 2017 Scoping Plan. The 2020-2045 RTP/SCS is a regional growth management strategy that targets per-capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region. The 2020-2045 RTP/SCS incorporates local land use projections and circulation networks in city and county general plans. The 2017 Scoping Plan describes the approach California will take to reduce GHG emissions by 40 percent below 1990 levels by the year 2030.

Consistency with the SCAG 2020-2045 RTP/SCS

On September 3, 2020, the Regional Council of SCAG formally adopted the 2020-2045 RTP/SCS. The 2020-2045 RTP/SCS includes performance goals that were adopted to help focus future investments on the best-performing projects, as well as different strategies to preserve, maintain, and optimize the performance of the existing transportation system. <u>Table 3</u>, <u>Consistency with the 2020-2045 RTP/SCS</u> shows the project's consistency with these five strategies found within the 2020-2045 RTP/SCS. As shown therein, the proposed project would be consistent with the GHG emission reduction strategies contained in the 2020-2045 RTP/SCS.

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
Focus Growth Near Destinations and Mobility Options		
 Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets Plan for growth near transit investments and support implementation of first/last mile strategies Promote the redevelopment of underperforming retail developments and other outmoded nonresidential uses Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations) Identify ways to "right size" parking requirements and promote alternative parking strategies (e.g. shared parking or smart parking) 	Center Focused Placemaking, Priority Growth Areas (PGA), Job Centers, High Quality Transit Areas (HQTAs), Transit Priority Areas (TPA), Neighborhood Mobility Areas (NMAs), Livable Corridors, Spheres of Influence (SOIs), Green Region, Urban Greening.	Consistent. Transit Priority Areas (TPAs) are defined in the 0.5-mile radius around an existing or planned major transit stop or an existing stop along a High-Quality Transit Corridor (HQTC). A HQTC is defined as a corridor with fixed route bus service frequency of 15 minutes (or less) during peak commute hours. Although the project site is not located in a TPA or HQTC, the project site is located within 200 feet of bus stops served by Riverside Transit Authority (RTA). Further, the project site is located within a pedestrian- oriented area given that it fronts existing sidewalks to the north and east. In addition, the project site is located in an urbanized area and within walking and biking distance of existing residential developments, increasing amenities in existing neighborhoods. The project would provide bicycle parking spaces and electric vehicle parking spaces in accordance with CALGreen Code. Therefore, the project would focus growth near destinations and mobility options.
Promote Diverse Housing Choices		
 Preserve and rehabilitate affordable housing and prevent displacement Identify funding opportunities for new workforce and affordable housing development Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of grouphouse as amingians. 	PGA, Job Centers, HQTAs, NMA, TPAs, Livable Corridors, Green Region, Urban Greening.	Not Applicable. The proposed project would not involve residential development; as such, this emissions reduction strategy would not be applicable to the project. Nonetheless, it is noted that proposed project would include the construction of a shopping center, which would promote development within a

Table 3Consistency with the 2020-2045 RTP/SCS

Table 3 (Continued)				
Consistency with the 2020-2045 RTP/SCS				

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
 Leverage Technology Innovations Promote low emission technologies such as neighborhood electric vehicles, shared rides hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space Improve access to services through technology—such as telework and telemedicine as well as other incentives such as a "mobility wallet," an app-based system for storing transit and other multimodal payments Identify ways to incorporate "micro-power grids" in communities, for example solar energy, hydrogen fuel cell power storage and power generation 	HQTA, TPAs, NMA, Livable Corridors.	Consistent. The project would be required to install electric vehicle charging stations as well as bicycle parking sapces in accordance with the 2019 Title 24 standards and CALGreen Code. Therefore, the proposed project would leverage technology innovations and help the City, County, and State meet its GHG reduction goals. The project would be consistent with this reduction strategy.
 Support Implementation of Sustainability Policies Pursue funding opportunities to support local sustainable development implementation projects that reduce greenhouse gas emissions Support statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations Support local jurisdictions in the establishment of Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), or other tax increment or value capture tools to finance sustainable infrastructure and development projects, including parks and open space Work with local jurisdictions/communities to identify opportunities and assess barriers to implement sustainability strategies Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region Continue to support long range planning efforts by local jurisdictions Provide educational opportunities to local decisions makers and staff on new tools, best practices and policies related to implementing the Sustainable Communities Strategy 	Center Focused Placemaking, Priority Growth Areas (PGA), Job Centers, High Quality Transit Areas (HQTAs), Transit Priority Areas (TPA), Neighborhood Mobility Areas (NMAs), Livable Corridors, Spheres of Influence (SOIs), Green Region, Urban Greening.	Consistent. As previously discussed, the proposed project would promote alternative modes of transportation. Further, the project would comply with sustainable practices included in the 2019 Title 24 standards and CALGreen Code, such as installation of electric vehicle charging stations, vanpooling and carpooling parking spaces, high efficiency lighting, low-flow water fixtures, water-efficiency irrigation, and draught tolerant landscape. Thus, the project would be consistent with this reduction strategy.

Table 3 (Continued)Consistency with the 2020-2045 RTP/SCS

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
Promote a Green Region		
 Support development of local climate adaptation and hazard mitigation plans, as well as project implementation that improves community resiliency to climate change and natural hazards Support local policies for renewable energy production, reduction of urban heat islands and carbon sequestration Integrate local food production into the regional landscape Promote more resource efficient development focused on conservation, recycling and reclamation Preserve, enhance and restore regional wildlife connectivity Reduce consumption of resource areas, including agricultural land Identify ways to improve access to public park space 	Green Region, Urban Greening, Greenbelts and Community Separators.	Consistent. The proposed project consists of a commercial infill development in an urbanized area and would therefore not interfere with regional wildlife connectivity or concert agricultural land. The project would be required to comply with 2019 Title 24 standards and CALGreen Code, which would help reduce energy consumption and reduce GHG emissions. Thus, the project would support resource efficient development that reduces energy consumption and GHG emissions. The project would be consistent with this reduction strategy.
Source: Southern California Association of Governments, 2020-2040 Regi Connect SoCal, September 3, 2020.	onal Transportation Pla	an/Sustainable Communities Strategy –

Consistency with the 2017 CARB Scoping Plan

The 2017 Scoping Plan identifies additional GHG reduction measures necessary to achieve the 2030 target. These measures build upon those identified in the first update to the Scoping Plan (2013). Although a number of these measures are currently established as policies and measures, some measures have not yet been formally proposed or adopted. It is expected that these measures or similar actions to reduce GHG emissions will be adopted as required to achieve statewide GHG emissions targets. Provided in <u>Table 4</u>, <u>Consistency with the 2017 Scoping Plan</u>, is an evaluation of applicable reduction actions/strategies by emissions source category to determine how the project would be consistent with or exceed reduction actions/strategies outlined in the 2017 Scoping Plan.

Table 4				
Consistency with the 2017 Scoping Plan				

Actions and Strategies	Project Consistency Analysis				
SB 350					
Achieve a 50 percent Renewables Portfolio Standard (RPS) by 2030, with a doubling of energy efficiency savings by 2030.	Consistent. The proposed project would not be an electrical provider or would delay the goals of SB 350. Furthermore, the project would utilize electricity from Southern California Edison which would be required to comply with SB 350. In addition, the project would install solar-ready roof. As such, the project would be in compliance with SB 350.				
Low Carbon Fuel Standard (LCFS)					
Increase stringency of carbon fuel standards; reduce the carbon intensity of fuels by 18 percent by 2030, which is up from 10 percent in 2020.	Consistent. Motor vehicles, including trucks, driven by the proposed project's tenants and customers would be required to use LCFS-compliant fuels, thus the project would be in compliance with this strategy.				
Mobile Source Strategy (Cleaner Technology and	nd Fuels Scenario)				
Maintain existing GHG standards of light and heavy-duty vehicles while adding an addition 4.2 million zero-emission vehicles (ZEVs) on the road. Increase the number of ZEV buses, delivery trucks, or other trucks.	Consistent. The proposed project would include commercial use which may include occasional light- and heavy-duty truck uses. Trucks uses associated with the project site would be required to comply with all CARB regulations, including the LCFS and newer engine standards. The proposed project would not conflict with the CARB's goal of adding 4.2 million zero-emission (ZEVs) on the road. Furthermore, the project would comply with the 2019 Title 24 standards and CALGreen Code, which requires the installation of electrical vehicle charging stations and designated parking spaces. As such, the project would not conflict with the goals of the Mobile Source Strategy.				
Sustainable Freight Action Plan					
Improve the freight system efficiency and maximize the use of near zero emission vehicles and equipment powered by renewable energy. Deploy over 100,000 zero-emission trucks and equipment by 2030.	Consistent. As described above, truck uses associated with the project site would be required to comply with all CARB regulations, including the LCFS and newer engine standards. Additionally, the project would comply with all future applicable regulatory standard adopted by CARB and would not conflict with CARB's goal to deploy over 100,000 zero-emission trucks and equipment by 2030.				
Short-Lived Climate Pollutant (SLCP) Reduction Strategy					
Reduce the GHG emissions of methane and hydrofluorocarbons by 40 percent below the 2013 levels by 2030. Furthermore, reduce the emissions of black carbon by 50 percent below the 2013 levels by the year 2030.	Consistent. The project would not emit a large amount of CH ₄ (methane) emissions; refer to <u>Table 2</u> . Furthermore, the project would comply with all CARB and SCAQMD hydrofluorocarbon regulations. As such, the proposed project would not conflict with the SLCP reduction strategy.				
1000000000000000000000000000000000000	Consistent As shown in Table 3, the project would be consistent with the				
emission per capita reduction target for metropolitan planning organizations (MPO).	2020-2045 RTP/SCS and would not conflict with the goals of SB 375.				
Post-2020 Cap and Trade Programs					
The Cap-and-Trade Program will reduce greenhouse gas (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.	Not Applicable. The project would not be a gross emitter of CO ₂ e emissions (25,000 metric tons per year), refer to <u>Table 2</u> , and thus would be exempt from the Cap-and-Trade Program. As such, this goal is not applicable to the project.				
Source: California Air Resources Board, 2017 Scoping F	Plan, November 2017.				

Conclusion

In summary, the plan consistency analysis provided above demonstrates that the proposed project complies with or exceeds the plans, policies, regulations and GHG reduction actions/strategies outlined in the 2020-2045 RTP/SCS and 2017 Scoping Plan. Therefore, the project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs. Thus, as the project does not conflict with the 2020-2045 RTP/SCS or the 2017 Scoping Plan, the project specific impacts with regard to climate change would be less than significant.

Mitigation Measures: No mitigation is required.

REFERENCES

Documents

- 1. California Building Standards Commission, 2019 California Building Standards Code, July 1, 2019.
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- 3. California Air Resources Board, 2017 Scoping Plan, November 2017.
- 4. City of Jurupa Valley, *Land Use Element*, 2017, https://www.jurupavalley.org/DocumentCenter/View/217/2017-Master-General-Plan-PDF, accessed August 25, 2022.
- 5. City of Jurupa Valley, *Zoning Map*, January 2019, https://www.jurupavalley.org/DocumentCenter/View/526/Zoning-Map-PDF, accessed August 25, 2022.
- 6. Scripps Institution of Oceanography, *Carbon Dioxide Concentration at Mauna Loa Observatory*, https://scripps.ucsd.edu/programs/keelingcurve/, accessed August 25, 2022.
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- 8. South Coast Air Quality Management District, *Draft Guidance Document-Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, October 2008.
- 9. Translutions, Inc., *Mission Village Shopping Center Transportation Impact Analysis*, May 2022.
- 10. U.S. Environmental Protection Agency Website, *Greenhouse Gas Equivalencies Calculator*, http://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed August 23, 2022.

Websites / Programs

- 1. Google Earth, 2022.
- 2. South Coast Air Quality Management District, California Emissions Estimator Model (CalEEMod), version 2020.4.0.

Appendix A Greenhouse Gas Emissions Data

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mission Village Shopping Center

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	408.00	Space	6.50	163,200.00	0
Fast Food Restaurant with Drive Thru	2.90	1000sqft	0.07	2,900.00	0
Health Club	18.00	1000sqft	0.41	18,000.00	0
Quality Restaurant	1.00	1000sqft	0.02	1,000.00	0
Automobile Care Center	3.83	1000sqft	0.09	3,825.00	0
Strip Mall	34.60	1000sqft	0.79	34,600.00	0
Supermarket	18.00	1000sqft	0.41	18,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.4	Precipitation Freq (Days)	28
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (Ib/MWhr)	390.98	CH4 Intensity (Ib/MWhr)	0.033	N2O Intensity 0 (Ib/MWhr)	.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -Land Use - PER SITE PLAN

Construction Phase - PER AQ CONSTRUCTION QUESTIONNAIRE

Off-road Equipment -

Off-road Equipment - as an conservative analysis

Off-road Equipment -

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Trips and VMT - per cosntruction questionnaire

Demolition - per demolished building dimensions

Grading -

Architectural Coating - Rule 1113

Vehicle Trips - per traffic study. Trip gen includes pass-by trip and internal trip credits. Trip length adjusted to account for high density location setting.

Area Coating - Rule 1113

Water And Wastewater - Car wash water use: 12 gallons/car * 597 trips/day * 365 days/year

Construction Off-road Equipment Mitigation - rule 403

Area Mitigation - rule 1113

Energy Mitigation - per operation questionnaire

Water Mitigation - per operational questionnaire

Waste Mitigation - per oeprational questionnaire

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblAreaCoating	Area_EF_Parking	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	230.00	196.00
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	20.00	23.00
tblGrading	MaterialExported	0.00	13,100.00
tblLandUse	LandUseSquareFeet	3,830.00	3,825.00
tblLandUse	LotAcreage	3.67	6.50
tblTripsAndVMT	HaulingTripLength	20.00	10.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	CC_TL	8.40	3.00
tblVehicleTrips	PB_TP	28.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	9.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	21.00	49.00
tblVehicleTrips	PR_TP	29.00	79.00
tblVehicleTrips	PR_TP	52.00	61.00
tblVehicleTrips	PR_TP	38.00	82.00
tblVehicleTrips	PR_TP	45.00	60.00
tblVehicleTrips	PR_TP	34.00	70.00
tblVehicleTrips	ST_TR	23.72	106.82
tblVehicleTrips	ST_TR	616.12	243.31
tblVehicleTrips	ST_TR	20.87	21.40
tblVehicleTrips	ST_TR	90.04	241.20
tblVehicleTrips	ST_TR	42.04	51.01
tblVehicleTrips	ST_TR	177.62	64.20
tblVehicleTrips	SU_TR	11.88	106.82
tblVehicleTrips	SU_TR	472.58	243.31
tblVehicleTrips	SU_TR	26.73	21.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	SU_TR	71.97	241.20
tblVehicleTrips	SU_TR	20.43	51.01
tblVehicleTrips	SU_TR	166.47	64.20
tblVehicleTrips	WD_TR	23.72	106.82
tblVehicleTrips	WD_TR	470.95	243.31
tblVehicleTrips	WD_TR	32.93	21.40
tblVehicleTrips	WD_TR	83.84	241.20
tblVehicleTrips	WD_TR	44.32	51.01
tblVehicleTrips	WD_TR	106.78	64.20
tblWater	OutdoorWaterUseRate	220,847.81	2,614,860.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year					ton	s/yr							МТ	/yr		
2022	0.0748	0.7281	0.6306	1.3500e- 003	0.1355	0.0332	0.1687	0.0502	0.0309	0.0811	0.0000	120.1310	120.1310	0.0263	2.9900e- 003	121.6809
2023	0.4220	1.9329	2.2531	4.8400e- 003	0.2881	0.0855	0.3737	0.1074	0.0801	0.1875	0.0000	431.8234	431.8234	0.0760	0.0130	437.5890
Maximum	0.4220	1.9329	2.2531	4.8400e- 003	0.2881	0.0855	0.3737	0.1074	0.0801	0.1875	0.0000	431.8234	431.8234	0.0760	0.0130	437.5890

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year					ton	s/yr							МТ	/yr		
2022	0.0748	0.7281	0.6306	1.3500e- 003	0.0633	0.0332	0.0965	0.0222	0.0309	0.0530	0.0000	120.1309	120.1309	0.0263	2.9900e- 003	121.6808
2023	0.4220	1.9329	2.2531	4.8400e- 003	0.1860	0.0855	0.2715	0.0612	0.0801	0.1413	0.0000	431.8231	431.8231	0.0760	0.0130	437.5887
Maximum	0.4220	1.9329	2.2531	4.8400e- 003	0.1860	0.0855	0.2715	0.0612	0.0801	0.1413	0.0000	431.8231	431.8231	0.0760	0.0130	437.5887

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	41.15	0.00	32.14	47.14	0.00	27.66	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2023	5-31-2023	0.7215	0.7215
2	6-1-2023	8-31-2023	0.8085	0.8085
		Highest	0.8085	0.8085

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	is/yr							MT	/yr		
Area	0.3134	6.0000e- 005	6.2100e- 003	0.0000		2.0000e- 005	2.0000e- 005		2.0000e- 005	2.0000e- 005	0.0000	0.0121	0.0121	3.0000e- 005	0.0000	0.0129
Energy	0.0118	0.1073	0.0902	6.4000e- 004		8.1600e- 003	8.1600e- 003	 	8.1600e- 003	8.1600e- 003	0.0000	387.9150	387.9150	0.0251	4.9200e- 003	390.0078
Mobile	1.7397	2.1264	13.3178	0.0260	2.5886	0.0224	2.6110	0.6916	0.0210	0.7125	0.0000	2,427.605 4	2,427.605 4	0.1758	0.1455	2,475.357 5
Waste	11 11 11	 - - -	, , , , ,			0.0000	0.0000	,	0.0000	0.0000	58.7436	0.0000	58.7436	3.4716	0.0000	145.5347
Water	h		,			0.0000	0.0000	,	0.0000	0.0000	2.3446	26.8829	29.2275	0.2431	5.9600e- 003	37.0811
Total	2.0650	2.2338	13.4142	0.0266	2.5886	0.0306	2.6191	0.6916	0.0292	0.7207	61.0882	2,842.415 3	2,903.503 5	3.9157	0.1564	3,047.993 9

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/yr		
Area	0.3134	6.0000e- 005	6.2100e- 003	0.0000		2.0000e- 005	2.0000e- 005		2.0000e- 005	2.0000e- 005	0.0000	0.0121	0.0121	3.0000e- 005	0.0000	0.0129
Energy	0.0113	0.1028	0.0864	6.2000e- 004		7.8100e- 003	7.8100e- 003		7.8100e- 003	7.8100e- 003	0.0000	368.5779	368.5779	0.0238	4.6800e- 003	370.5671
Mobile	1.7397	2.1264	13.3178	0.0260	2.5886	0.0224	2.6110	0.6916	0.0210	0.7125	0.0000	2,427.605 4	2,427.605 4	0.1758	0.1455	2,475.357 5
Waste	n					0.0000	0.0000		0.0000	0.0000	41.1205	0.0000	41.1205	2.4302	0.0000	101.8743
Water	n					0.0000	0.0000		0.0000	0.0000	1.8757	22.8708	24.7465	0.1946	4.7800e- 003	31.0364
Total	2.0645	2.2293	13.4104	0.0266	2.5886	0.0302	2.6188	0.6916	0.0288	0.7204	42.9962	2,819.066 2	2,862.062 4	2.8244	0.1550	2,978.848 1

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.02	0.20	0.03	0.08	0.00	1.14	0.01	0.00	1.20	0.05	29.62	0.82	1.43	27.87	0.91	2.27

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/1/2022	11/28/2022	5	20	
2	Grading	Grading	11/29/2022	2/28/2023	5	66	
3	Building Construction	Building Construction	12/1/2022	8/31/2023	5	196	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Paving	Paving	3/1/2023	3/31/2023	5	23	
5	Architectural Coating	Architectural Coating	7/1/2023	7/31/2023	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 66

Acres of Paving: 6.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 117,488; Non-Residential Outdoor: 39,163; Striped Parking Area: 9,792 (Architectural Coating – sqft)

OffRoad Equipment

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	60.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,638.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	96.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Fugitive Dust					6.5400e- 003	0.0000	6.5400e- 003	9.9000e- 004	0.0000	9.9000e- 004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0264	0.2572	0.2059	3.9000e- 004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e- 003	0.0000	34.2289
Total	0.0264	0.2572	0.2059	3.9000e- 004	6.5400e- 003	0.0124	0.0190	9.9000e- 004	0.0116	0.0125	0.0000	33.9902	33.9902	9.5500e- 003	0.0000	34.2289

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	7/yr		
Hauling	7.0000e- 005	2.3400e- 003	6.9000e- 004	1.0000e- 005	2.6000e- 004	2.0000e- 005	2.8000e- 004	7.0000e- 005	2.0000e- 005	9.0000e- 005	0.0000	0.8817	0.8817	1.0000e- 005	1.4000e- 004	0.9234
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e- 004	4.1000e- 004	5.1100e- 003	1.0000e- 005	1.6500e- 003	1.0000e- 005	1.6600e- 003	4.4000e- 004	1.0000e- 005	4.5000e- 004	0.0000	1.3037	1.3037	3.0000e- 005	4.0000e- 005	1.3153
Total	5.9000e- 004	2.7500e- 003	5.8000e- 003	2.0000e- 005	1.9100e- 003	3.0000e- 005	1.9400e- 003	5.1000e- 004	3.0000e- 005	5.4000e- 004	0.0000	2.1853	2.1853	4.0000e- 005	1.8000e- 004	2.2387

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/yr		
Fugitive Dust					2.4200e- 003	0.0000	2.4200e- 003	3.7000e- 004	0.0000	3.7000e- 004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0264	0.2572	0.2059	3.9000e- 004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e- 003	0.0000	34.2289
Total	0.0264	0.2572	0.2059	3.9000e- 004	2.4200e- 003	0.0124	0.0149	3.7000e- 004	0.0116	0.0119	0.0000	33.9902	33.9902	9.5500e- 003	0.0000	34.2289

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	7.0000e- 005	2.3400e- 003	6.9000e- 004	1.0000e- 005	2.6000e- 004	2.0000e- 005	2.8000e- 004	7.0000e- 005	2.0000e- 005	9.0000e- 005	0.0000	0.8817	0.8817	1.0000e- 005	1.4000e- 004	0.9234
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e- 004	4.1000e- 004	5.1100e- 003	1.0000e- 005	1.6500e- 003	1.0000e- 005	1.6600e- 003	4.4000e- 004	1.0000e- 005	4.5000e- 004	0.0000	1.3037	1.3037	3.0000e- 005	4.0000e- 005	1.3153
Total	5.9000e- 004	2.7500e- 003	5.8000e- 003	2.0000e- 005	1.9100e- 003	3.0000e- 005	1.9400e- 003	5.1000e- 004	3.0000e- 005	5.4000e- 004	0.0000	2.1853	2.1853	4.0000e- 005	1.8000e- 004	2.2387

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Fugitive Dust		1 1 1			0.1081	0.0000	0.1081	0.0436	0.0000	0.0436	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0234	0.2503	0.1833	3.6000e- 004		0.0113	0.0113		0.0104	0.0104	0.0000	31.2657	31.2657	0.0101	0.0000	31.5185
Total	0.0234	0.2503	0.1833	3.6000e- 004	0.1081	0.0113	0.1194	0.0436	0.0104	0.0540	0.0000	31.2657	31.2657	0.0101	0.0000	31.5185

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	6.5000e- 004	0.0233	6.8900e- 003	9.0000e- 005	2.5700e- 003	2.2000e- 004	2.8000e- 003	7.1000e- 004	2.1000e- 004	9.2000e- 004	0.0000	8.7525	8.7525	1.2000e- 004	1.3800e- 003	9.1663
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e- 004	4.9000e- 004	6.1300e- 003	2.0000e- 005	1.9800e- 003	1.0000e- 005	1.9900e- 003	5.3000e- 004	1.0000e- 005	5.3000e- 004	0.0000	1.5644	1.5644	4.0000e- 005	4.0000e- 005	1.5784
Total	1.2800e- 003	0.0238	0.0130	1.1000e- 004	4.5500e- 003	2.3000e- 004	4.7900e- 003	1.2400e- 003	2.2000e- 004	1.4500e- 003	0.0000	10.3169	10.3169	1.6000e- 004	1.4200e- 003	10.7447

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/yr		
Fugitive Dust					0.0401	0.0000	0.0401	0.0162	0.0000	0.0162	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0234	0.2503	0.1833	3.6000e- 004		0.0113	0.0113		0.0104	0.0104	0.0000	31.2657	31.2657	0.0101	0.0000	31.5185
Total	0.0234	0.2503	0.1833	3.6000e- 004	0.0401	0.0113	0.0513	0.0162	0.0104	0.0266	0.0000	31.2657	31.2657	0.0101	0.0000	31.5185

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	7/yr		
Hauling	6.5000e- 004	0.0233	6.8900e- 003	9.0000e- 005	2.5700e- 003	2.2000e- 004	2.8000e- 003	7.1000e- 004	2.1000e- 004	9.2000e- 004	0.0000	8.7525	8.7525	1.2000e- 004	1.3800e- 003	9.1663
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e- 004	4.9000e- 004	6.1300e- 003	2.0000e- 005	1.9800e- 003	1.0000e- 005	1.9900e- 003	5.3000e- 004	1.0000e- 005	5.3000e- 004	0.0000	1.5644	1.5644	4.0000e- 005	4.0000e- 005	1.5784
Total	1.2800e- 003	0.0238	0.0130	1.1000e- 004	4.5500e- 003	2.3000e- 004	4.7900e- 003	1.2400e- 003	2.2000e- 004	1.4500e- 003	0.0000	10.3169	10.3169	1.6000e- 004	1.4200e- 003	10.7447

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Fugitive Dust		1 1 1	, , ,		0.1623	0.0000	0.1623	0.0734	0.0000	0.0734	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0359	0.3767	0.3098	6.2000e- 004		0.0163	0.0163		0.0150	0.0150	0.0000	54.7273	54.7273	0.0177	0.0000	55.1698
Total	0.0359	0.3767	0.3098	6.2000e- 004	0.1623	0.0163	0.1786	0.0734	0.0150	0.0884	0.0000	54.7273	54.7273	0.0177	0.0000	55.1698

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	is/yr							МТ	7/yr		
Hauling	8.8000e- 004	0.0329	0.0121	1.5000e- 004	4.5000e- 003	3.2000e- 004	4.8200e- 003	1.2400e- 003	3.0000e- 004	1.5400e- 003	0.0000	14.6631	14.6631	2.1000e- 004	2.3100e- 003	15.3569
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0200e- 003	7.6000e- 004	9.8900e- 003	3.0000e- 005	3.4600e- 003	2.0000e- 005	3.4800e- 003	9.2000e- 004	2.0000e- 005	9.3000e- 004	0.0000	2.6659	2.6659	7.0000e- 005	7.0000e- 005	2.6884
Total	1.9000e- 003	0.0336	0.0219	1.8000e- 004	7.9600e- 003	3.4000e- 004	8.3000e- 003	2.1600e- 003	3.2000e- 004	2.4700e- 003	0.0000	17.3290	17.3290	2.8000e- 004	2.3800e- 003	18.0453

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Fugitive Dust					0.0601	0.0000	0.0601	0.0272	0.0000	0.0272	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0359	0.3767	0.3098	6.2000e- 004		0.0163	0.0163		0.0150	0.0150	0.0000	54.7272	54.7272	0.0177	0.0000	55.1697
Total	0.0359	0.3767	0.3098	6.2000e- 004	0.0601	0.0163	0.0764	0.0272	0.0150	0.0422	0.0000	54.7272	54.7272	0.0177	0.0000	55.1697

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	8.8000e- 004	0.0329	0.0121	1.5000e- 004	4.5000e- 003	3.2000e- 004	4.8200e- 003	1.2400e- 003	3.0000e- 004	1.5400e- 003	0.0000	14.6631	14.6631	2.1000e- 004	2.3100e- 003	15.3569
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0200e- 003	7.6000e- 004	9.8900e- 003	3.0000e- 005	3.4600e- 003	2.0000e- 005	3.4800e- 003	9.2000e- 004	2.0000e- 005	9.3000e- 004	0.0000	2.6659	2.6659	7.0000e- 005	7.0000e- 005	2.6884
Total	1.9000e- 003	0.0336	0.0219	1.8000e- 004	7.9600e- 003	3.4000e- 004	8.3000e- 003	2.1600e- 003	3.2000e- 004	2.4700e- 003	0.0000	17.3290	17.3290	2.8000e- 004	2.3800e- 003	18.0453

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.0188	0.1718	0.1800	3.0000e- 004		8.9000e- 003	8.9000e- 003	- 	8.3700e- 003	8.3700e- 003	0.0000	25.4898	25.4898	6.1100e- 003	0.0000	25.6424
Total	0.0188	0.1718	0.1800	3.0000e- 004		8.9000e- 003	8.9000e- 003		8.3700e- 003	8.3700e- 003	0.0000	25.4898	25.4898	6.1100e- 003	0.0000	25.6424

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	ıs/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e- 004	0.0195	6.5800e- 003	8.0000e- 005	2.7800e- 003	2.7000e- 004	3.0500e- 003	8.0000e- 004	2.6000e- 004	1.0600e- 003	0.0000	7.7052	7.7052	8.0000e- 005	1.1400e- 003	8.0479
Worker	3.6900e- 003	2.8700e- 003	0.0360	1.0000e- 004	0.0116	6.0000e- 005	0.0117	3.0800e- 003	5.0000e- 005	3.1400e- 003	0.0000	9.1779	9.1779	2.4000e- 004	2.5000e- 004	9.2597
Total	4.3900e- 003	0.0224	0.0426	1.8000e- 004	0.0144	3.3000e- 004	0.0147	3.8800e- 003	3.1000e- 004	4.2000e- 003	0.0000	16.8831	16.8831	3.2000e- 004	1.3900e- 003	17.3076

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.0188	0.1718	0.1800	3.0000e- 004		8.9000e- 003	8.9000e- 003	1 1 1	8.3700e- 003	8.3700e- 003	0.0000	25.4898	25.4898	6.1100e- 003	0.0000	25.6424
Total	0.0188	0.1718	0.1800	3.0000e- 004		8.9000e- 003	8.9000e- 003		8.3700e- 003	8.3700e- 003	0.0000	25.4898	25.4898	6.1100e- 003	0.0000	25.6424

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e- 004	0.0195	6.5800e- 003	8.0000e- 005	2.7800e- 003	2.7000e- 004	3.0500e- 003	8.0000e- 004	2.6000e- 004	1.0600e- 003	0.0000	7.7052	7.7052	8.0000e- 005	1.1400e- 003	8.0479
Worker	3.6900e- 003	2.8700e- 003	0.0360	1.0000e- 004	0.0116	6.0000e- 005	0.0117	3.0800e- 003	5.0000e- 005	3.1400e- 003	0.0000	9.1779	9.1779	2.4000e- 004	2.5000e- 004	9.2597
Total	4.3900e- 003	0.0224	0.0426	1.8000e- 004	0.0144	3.3000e- 004	0.0147	3.8800e- 003	3.1000e- 004	4.2000e- 003	0.0000	16.8831	16.8831	3.2000e- 004	1.3900e- 003	17.3076

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.1368	1.2515	1.4132	2.3400e- 003		0.0609	0.0609	1 1 1	0.0573	0.0573	0.0000	201.6701	201.6701	0.0480	0.0000	202.8695
Total	0.1368	1.2515	1.4132	2.3400e- 003		0.0609	0.0609		0.0573	0.0573	0.0000	201.6701	201.6701	0.0480	0.0000	202.8695

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7700e- 003	0.1193	0.0475	6.1000e- 004	0.0220	9.9000e- 004	0.0230	6.3400e- 003	9.5000e- 004	7.2900e- 003	0.0000	58.5512	58.5512	5.9000e- 004	8.6600e- 003	61.1460
Worker	0.0271	0.0201	0.2622	7.6000e- 004	0.0918	4.4000e- 004	0.0922	0.0244	4.0000e- 004	0.0248	0.0000	70.6856	70.6856	1.7400e- 003	1.8500e- 003	71.2816
Total	0.0309	0.1394	0.3097	1.3700e- 003	0.1138	1.4300e- 003	0.1152	0.0307	1.3500e- 003	0.0321	0.0000	129.2368	129.2368	2.3300e- 003	0.0105	132.4275

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.1368	1.2515	1.4132	2.3400e- 003		0.0609	0.0609	1 1 1	0.0573	0.0573	0.0000	201.6699	201.6699	0.0480	0.0000	202.8692
Total	0.1368	1.2515	1.4132	2.3400e- 003		0.0609	0.0609		0.0573	0.0573	0.0000	201.6699	201.6699	0.0480	0.0000	202.8692

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	7/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7700e- 003	0.1193	0.0475	6.1000e- 004	0.0220	9.9000e- 004	0.0230	6.3400e- 003	9.5000e- 004	7.2900e- 003	0.0000	58.5512	58.5512	5.9000e- 004	8.6600e- 003	61.1460
Worker	0.0271	0.0201	0.2622	7.6000e- 004	0.0918	4.4000e- 004	0.0922	0.0244	4.0000e- 004	0.0248	0.0000	70.6856	70.6856	1.7400e- 003	1.8500e- 003	71.2816
Total	0.0309	0.1394	0.3097	1.3700e- 003	0.1138	1.4300e- 003	0.1152	0.0307	1.3500e- 003	0.0321	0.0000	129.2368	129.2368	2.3300e- 003	0.0105	132.4275

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.0119	0.1172	0.1677	2.6000e- 004		5.8700e- 003	5.8700e- 003	, , ,	5.4000e- 003	5.4000e- 003	0.0000	23.0309	23.0309	7.4500e- 003	0.0000	23.2171
Paving	8.5200e- 003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0204	0.1172	0.1677	2.6000e- 004		5.8700e- 003	5.8700e- 003		5.4000e- 003	5.4000e- 003	0.0000	23.0309	23.0309	7.4500e- 003	0.0000	23.2171

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e- 004	4.1000e- 004	5.4200e- 003	2.0000e- 005	1.9000e- 003	1.0000e- 005	1.9100e- 003	5.0000e- 004	1.0000e- 005	5.1000e- 004	0.0000	1.4599	1.4599	4.0000e- 005	4.0000e- 005	1.4722
Total	5.6000e- 004	4.1000e- 004	5.4200e- 003	2.0000e- 005	1.9000e- 003	1.0000e- 005	1.9100e- 003	5.0000e- 004	1.0000e- 005	5.1000e- 004	0.0000	1.4599	1.4599	4.0000e- 005	4.0000e- 005	1.4722

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.0119	0.1172	0.1677	2.6000e- 004		5.8700e- 003	5.8700e- 003		5.4000e- 003	5.4000e- 003	0.0000	23.0309	23.0309	7.4500e- 003	0.0000	23.2171
Paving	8.5200e- 003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0204	0.1172	0.1677	2.6000e- 004		5.8700e- 003	5.8700e- 003		5.4000e- 003	5.4000e- 003	0.0000	23.0309	23.0309	7.4500e- 003	0.0000	23.2171

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e- 004	4.1000e- 004	5.4200e- 003	2.0000e- 005	1.9000e- 003	1.0000e- 005	1.9100e- 003	5.0000e- 004	1.0000e- 005	5.1000e- 004	0.0000	1.4599	1.4599	4.0000e- 005	4.0000e- 005	1.4722
Total	5.6000e- 004	4.1000e- 004	5.4200e- 003	2.0000e- 005	1.9000e- 003	1.0000e- 005	1.9100e- 003	5.0000e- 004	1.0000e- 005	5.1000e- 004	0.0000	1.4599	1.4599	4.0000e- 005	4.0000e- 005	1.4722

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Archit. Coating	0.1929	1 1 1				0.0000	0.0000	, , ,	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0100e- 003	0.0137	0.0190	3.0000e- 005		7.4000e- 004	7.4000e- 004	1 1 1 1	7.4000e- 004	7.4000e- 004	0.0000	2.6809	2.6809	1.6000e- 004	0.0000	2.6849
Total	0.1949	0.0137	0.0190	3.0000e- 005		7.4000e- 004	7.4000e- 004		7.4000e- 004	7.4000e- 004	0.0000	2.6809	2.6809	1.6000e- 004	0.0000	2.6849

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e- 004	4.8000e- 004	6.2600e- 003	2.0000e- 005	2.1900e- 003	1.0000e- 005	2.2000e- 003	5.8000e- 004	1.0000e- 005	5.9000e- 004	0.0000	1.6884	1.6884	4.0000e- 005	4.0000e- 005	1.7027
Total	6.5000e- 004	4.8000e- 004	6.2600e- 003	2.0000e- 005	2.1900e- 003	1.0000e- 005	2.2000e- 003	5.8000e- 004	1.0000e- 005	5.9000e- 004	0.0000	1.6884	1.6884	4.0000e- 005	4.0000e- 005	1.7027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/yr		
Archit. Coating	0.1929					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0100e- 003	0.0137	0.0190	3.0000e- 005		7.4000e- 004	7.4000e- 004		7.4000e- 004	7.4000e- 004	0.0000	2.6809	2.6809	1.6000e- 004	0.0000	2.6849
Total	0.1949	0.0137	0.0190	3.0000e- 005		7.4000e- 004	7.4000e- 004		7.4000e- 004	7.4000e- 004	0.0000	2.6809	2.6809	1.6000e- 004	0.0000	2.6849

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	ſ/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e- 004	4.8000e- 004	6.2600e- 003	2.0000e- 005	2.1900e- 003	1.0000e- 005	2.2000e- 003	5.8000e- 004	1.0000e- 005	5.9000e- 004	0.0000	1.6884	1.6884	4.0000e- 005	4.0000e- 005	1.7027
Total	6.5000e- 004	4.8000e- 004	6.2600e- 003	2.0000e- 005	2.1900e- 003	1.0000e- 005	2.2000e- 003	5.8000e- 004	1.0000e- 005	5.9000e- 004	0.0000	1.6884	1.6884	4.0000e- 005	4.0000e- 005	1.7027

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Mitigated	1.7397	2.1264	13.3178	0.0260	2.5886	0.0224	2.6110	0.6916	0.0210	0.7125	0.0000	2,427.605 4	2,427.605 4	0.1758	0.1455	2,475.357 5
Unmitigated	1.7397	2.1264	13.3178	0.0260	2.5886	0.0224	2.6110	0.6916	0.0210	0.7125	0.0000	2,427.605 4	2,427.605 4	0.1758	0.1455	2,475.357 5

4.2 Trip Summary Information

	Aver	age Daily Trip Ra	te	Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	409.12	409.12	409.12	756,723	756,723
Fast Food Restaurant with Drive Thru	705.60	705.60	705.60	874,243	874,243
Health Club	385.20	385.20	385.20	599,112	599,112
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	241.20	241.20	241.20	408,048	408,048
Strip Mall	1,764.95	1,764.95	1764.95	2,697,620	2,697,620
Supermarket	1,155.60	1,155.60	1155.60	1,507,726	1,507,726
Total	4,661.67	4,661.67	4,661.67	6,843,471	6,843,471

4.3 Trip Type Information

		Miles			Trip %			Trip Purpos	e %
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	16.60	3.00	6.90	33.00	48.00	19.00	49	51	0
Fast Food Restaurant with Drive	16.60	3.00	6.90	2.20	78.80	19.00	79	21	0
Health Club	16.60	3.00	6.90	16.90	64.10	19.00	61	39	0
Parking Lot	16.60	3.00	6.90	0.00	0.00	0.00	0	0	0
Quality Restaurant	16.60	3.00	6.90	12.00	69.00	19.00	82	18	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

		Miles			Trip %			Trip Purpos	e %
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Strip Mall	16.60	3.00	6.90	16.60	64.40	19.00	60	40	0
Supermarket	16.60	3.00	6.90	6.50	74.50	19.00	70	30	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Fast Food Restaurant with Drive Thru	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Health Club	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Parking Lot	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Quality Restaurant	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Strip Mall	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Supermarket	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	256.6652	256.6652	0.0217	2.6300e- 003	257.9893
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	271.0783	271.0783	0.0229	2.7700e- 003	272.4768
NaturalGas Mitigated	0.0113	0.1028	0.0864	6.2000e- 004		7.8100e- 003	7.8100e- 003		7.8100e- 003	7.8100e- 003	0.0000	111.9127	111.9127	2.1400e- 003	2.0500e- 003	112.5778
NaturalGas Unmitigated	0.0118	0.1073	0.0902	6.4000e- 004		8.1600e- 003	8.1600e- 003		8.1600e- 003	8.1600e- 003	0.0000	116.8367	116.8367	2.2400e- 003	2.1400e- 003	117.5310

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa s Use	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr					ton	s/yr							МТ	/yr		
Automobile Care Center	123662	6.7000e- 004	6.0600e- 003	5.0900e- 003	4.0000e- 005		4.6000e- 004	4.6000e- 004		4.6000e- 004	4.6000e- 004	0.0000	6.5991	6.5991	1.3000e- 004	1.2000e- 004	6.6383
Fast Food Restaurant with Drive Thru	790714	4.2600e- 003	0.0388	0.0326	2.3000e- 004		2.9500e- 003	2.9500e- 003		2.9500e- 003	2.9500e- 003	0.0000	42.1955	42.1955	8.1000e- 004	7.7000e- 004	42.4463
Health Club	581940	3.1400e- 003	0.0285	0.0240	1.7000e- 004		2.1700e- 003	2.1700e- 003		2.1700e- 003	2.1700e- 003	0.0000	31.0545	31.0545	6.0000e- 004	5.7000e- 004	31.2391
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	272660	1.4700e- 003	0.0134	0.0112	8.0000e- 005		1.0200e- 003	1.0200e- 003		1.0200e- 003	1.0200e- 003	0.0000	14.5502	14.5502	2.8000e- 004	2.7000e- 004	14.6366
Strip Mall	76120	4.1000e- 004	3.7300e- 003	3.1300e- 003	2.0000e- 005		2.8000e- 004	2.8000e- 004		2.8000e- 004	2.8000e- 004	0.0000	4.0621	4.0621	8.0000e- 005	7.0000e- 005	4.0862
Supermarket	344340	1.8600e- 003	0.0169	0.0142	1.0000e- 004		1.2800e- 003	1.2800e- 003		1.2800e- 003	1.2800e- 003	0.0000	18.3753	18.3753	3.5000e- 004	3.4000e- 004	18.4845
Total		0.0118	0.1073	0.0902	6.4000e- 004		8.1600e- 003	8.1600e- 003		8.1600e- 003	8.1600e- 003	0.0000	116.8367	116.8367	2.2500e- 003	2.1400e- 003	117.5310

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGa s Use	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr					ton	s/yr							МТ	/yr		
Automobile Care Center	117848	6.4000e- 004	5.7800e- 003	4.8500e- 003	3.0000e- 005		4.4000e- 004	4.4000e- 004		4.4000e- 004	4.4000e- 004	0.0000	6.2888	6.2888	1.2000e- 004	1.2000e- 004	6.3262
Fast Food Restaurant with Drive Thru	768416	4.1400e- 003	0.0377	0.0316	2.3000e- 004		2.8600e- 003	2.8600e- 003		2.8600e- 003	2.8600e- 003	0.0000	41.0056	41.0056	7.9000e- 004	7.5000e- 004	41.2493
Health Club	554580	2.9900e- 003	0.0272	0.0228	1.6000e- 004		2.0700e- 003	2.0700e- 003		2.0700e- 003	2.0700e- 003	0.0000	29.5945	29.5945	5.7000e- 004	5.4000e- 004	29.7704
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	264971	1.4300e- 003	0.0130	0.0109	8.0000e- 005		9.9000e- 004	9.9000e- 004		9.9000e- 004	9.9000e- 004	0.0000	14.1399	14.1399	2.7000e- 004	2.6000e- 004	14.2239
Strip Mall	69546	3.8000e- 004	3.4100e- 003	2.8600e- 003	2.0000e- 005		2.6000e- 004	2.6000e- 004		2.6000e- 004	2.6000e- 004	0.0000	3.7112	3.7112	7.0000e- 005	7.0000e- 005	3.7333
Supermarket	321804	1.7400e- 003	0.0158	0.0133	9.0000e- 005		1.2000e- 003	1.2000e- 003		1.2000e- 003	1.2000e- 003	0.0000	17.1727	17.1727	3.3000e- 004	3.1000e- 004	17.2747
Total		0.0113	0.1028	0.0864	6.1000e- 004		7.8200e- 003	7.8200e- 003		7.8200e- 003	7.8200e- 003	0.0000	111.9127	111.9127	2.1500e- 003	2.0500e- 003	112.5778

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		MT	/yr	
Automobile Care Center	37944	6.7292	5.7000e- 004	7.0000e- 005	6.7639
Fast Food Restaurant with Drive Thru	133864	23.7402	2.0000e- 003	2.4000e- 004	23.8627
Health Club	178560	31.6668	2.6700e- 003	3.2000e- 004	31.8302
Parking Lot	57120	10.1300	8.6000e- 004	1.0000e- 004	10.1822
Quality Restaurant	46160	8.1863	6.9000e- 004	8.0000e- 005	8.2285
Strip Mall	420044	74.4929	6.2900e- 003	7.6000e- 004	74.8772
Supermarket	654840	116.1330	9.8000e- 003	1.1900e- 003	116.7321
Total		271.0783	0.0229	2.7600e- 003	272.4768

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		MT	/yr	
Automobile Care Center	36069.8	6.3968	5.4000e- 004	7.0000e- 005	6.4298
Fast Food Restaurant with Drive Thru	128737	22.8309	1.9300e- 003	2.3000e- 004	22.9487
Health Club	169740	30.1026	2.5400e- 003	3.1000e- 004	30.2579
Parking Lot	51408	9.1170	7.7000e- 004	9.0000e- 005	9.1640
Quality Restaurant	44392	7.8727	6.6000e- 004	8.0000e- 005	7.9133
Strip Mall	386482	68.5409	5.7900e- 003	7.0000e- 004	68.8945
Supermarket	630432	111.8043	9.4400e- 003	1.1400e- 003	112.3811
Total		256.6652	0.0217	2.6200e- 003	257.9893

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Mitigated	0.3134	6.0000e- 005	6.2100e- 003	0.0000		2.0000e- 005	2.0000e- 005		2.0000e- 005	2.0000e- 005	0.0000	0.0121	0.0121	3.0000e- 005	0.0000	0.0129
Unmitigated	0.3134	6.0000e- 005	6.2100e- 003	0.0000		2.0000e- 005	2.0000e- 005	 - - -	2.0000e- 005	2.0000e- 005	0.0000	0.0121	0.0121	3.0000e- 005	0.0000	0.0129

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory					ton	s/yr							MT	/yr		
Architectural Coating	0.0193					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2936					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.7000e- 004	6.0000e- 005	6.2100e- 003	0.0000		2.0000e- 005	2.0000e- 005	1	2.0000e- 005	2.0000e- 005	0.0000	0.0121	0.0121	3.0000e- 005	0.0000	0.0129
Total	0.3134	6.0000e- 005	6.2100e- 003	0.0000		2.0000e- 005	2.0000e- 005		2.0000e- 005	2.0000e- 005	0.0000	0.0121	0.0121	3.0000e- 005	0.0000	0.0129

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory					ton	s/yr							MT	/yr		
Architectural Coating	0.0193					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2936					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.7000e- 004	6.0000e- 005	6.2100e- 003	0.0000		2.0000e- 005	2.0000e- 005		2.0000e- 005	2.0000e- 005	0.0000	0.0121	0.0121	3.0000e- 005	0.0000	0.0129
Total	0.3134	6.0000e- 005	6.2100e- 003	0.0000		2.0000e- 005	2.0000e- 005		2.0000e- 005	2.0000e- 005	0.0000	0.0121	0.0121	3.0000e- 005	0.0000	0.0129

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category		MT	∏/yr	
Mitigated	24.7465	0.1946	4.7800e- 003	31.0364
Unmitigated	29.2275	0.2431	5.9600e- 003	37.0811

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

<u>Unmitigated</u>

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal		МТ	/yr	
Automobile Care Center	D.360331 / 2.61486	6.0985	0.0123	3.4000e- 004	6.5055
Fast Food Restaurant with Drive Thru	0.880248/ 0.056186	2.4227	0.0289	7.0000e- 004	3.3526
Health Club	1.06458 / 0.652482	4.0817	0.0350	8.6000e- 004	5.2123
Parking Lot	0/0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.303534 / 0.0193745	0.8354	9.9500e- 003	2.4000e- 004	1.1561
Strip Mall	2.56291 / 1.57082	9.8264	0.0843	2.0600e- 003	12.5483
Supermarket	2.21883 / 0.0686235	5.9629	0.0727	1.7600e- 003	8.3063
Total		29.2275	0.2431	5.9600e- 003	37.0811

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal		МТ	/yr	
Automobile Care Center	0.288265 / 2.45535	5.5949	9.8600e- 003	2.8000e- 004	5.9242
Fast Food Restaurant with Drive Thru	0.704198/ 0.0527587	1.9535	0.0231	5.6000e- 004	2.6976
Health Club	D.851661/ 0.612681	3.4440	0.0280	6.9000e- 004	4.3495
Parking Lot	0/0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant).242827 / 0.0181926	0.6736	7.9600e- 003	1.9000e- 004	0.9302
Strip Mall	2.05033 / 1.475	8.2913	0.0675	1.6600e- 003	10.4711
Supermarket	1.77506 / 0.0644375	4.7891	0.0582	1.4100e- 003	6.6639
Total		24.7465	0.1946	4.7900e- 003	31.0364

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
		МТ	/yr	
Mitigated	41.1205	2.4302	0.0000	101.8743
Unmitigated	58.7436	3.4716	0.0000	145.5347

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons		МТ	/yr	
Automobile Care Center	14.63	2.9698	0.1755	0.0000	7.3575
Fast Food Restaurant with Drive Thru	33.4	6.7799	0.4007	0.0000	16.7969
Health Club	102.6	20.8269	1.2308	0.0000	51.5977
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.91	0.1847	0.0109	0.0000	0.4576
Strip Mall	36.33	7.3747	0.4358	0.0000	18.2704
Supermarket	101.52	20.6076	1.2179	0.0000	51.0546
Total		58.7436	3.4717	0.0000	145.5347

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e	
Land Use	tons	MT/yr				
Automobile Care Center	10.241	2.0788	0.1229	0.0000	5.1502	
Fast Food Restaurant with Drive Thru	23.38	4.7459	0.2805	0.0000	11.7578	
Health Club	71.82	14.5788	0.8616	0.0000	36.1184	
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	
Quality Restaurant	0.637	0.1293	7.6400e- 003	0.0000	0.3204	
Strip Mall	25.431	5.1623	0.3051	0.0000	12.7893	
Supermarket	71.064	14.4254	0.8525	0.0000	35.7382	
Total		41.1205	2.4302	0.0000	101.8743	

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type	
0.0 Stationary Equipment							
Fire Pumps and Emergency Generators							
Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type	
	-						

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Boilers

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