Appendix G

GHG Emissions Analysis Report

Meridian D-1 Gateway Aviation Center

GREENHOUSE GAS ANALYSIS

MARCH JOINT POWERS AUTHORITY (MARCH JPA)

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LIST OF ABBREVIATED TERMS

%	Percent
°C	Degrees Celsius
°F	Degrees Fahrenheit
(1)	Reference
2016-2040 RTP/SCS	*Final 2016-2040 Regional Transportation Plan/Sustainable Communities Strategies*
2017 Scoping Plan	*Final 2017 Scoping Plan Update*
AB	Assembly Bill
AB 32	Global Warming Solutions Act of 2006
AB 1493	Pavley Fuel Efficiency Standards
AB 1881	California Water Conservation Landscaping Act of 2006
ACE	Affordable Clean Energy
AEDT	Aviation Environmental Design Tool
Annex I	Industrialized Nations
APA	Administrative Procedure Act
AQIA	*Gateway Aviation Air Quality Impact Analysis*
BAU	Business As Usual
C_2F_6	Hexafluoroethane
C_2H_6	Ethane
$C_2H_2F_4$	Tetrafluroethane
$C_2H_4F_2$	Ethylidene Fluoride
CAA	Federal Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGAPS	California LBNL GHG Analysis of Policies Spreadsheet
CALGreen	California Green Building Standards Code
CalSTA	California State Transportation Agency
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resource Board
CBSC	California Building Standards Commission
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CEC	California Energy Commission

CEQA	California Environmental Quality Act
CEQA Guidelines	*2019 CEQA Statute and Guidelines*
CF_4	Tetrafluoromethane
CFC	Chlorofluorocarbons
CFC-113	Trichlorotrifluoroethane
CH_4	Methane
CNRA	California Natural Resources Agency
CNRA 2009	*2009 California Climate Adaptation Strategy*
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
Convention	United Nation's Framework Convention on Climate Change
COP	Conference of the Parties
County	County of Riverside
CPUC	California Public Utilities Commission
CRRC	Cool Roof Rating Council
CTC	California Transportation Commission
DOF	Department of Finance
DWR	Department of Water Resources
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
EV	Electric Vehicle
FAA	Federal Aviation Administration
g/L	Grams Per Liter
GCC	Global Climate Change
Gg	Gigagram
GHGA	Greenhouse Gas Analysis
GO-Biz	Governor's Office of Business and Economic Development
GWP	Global Warming Potential
H_2O	Water
HFC	Hydrofluorocarbons
HDT	Heavy-Duty Trucks
HFC-23	Fluoroform
HFC-134a	1,1,1,2-tetrafluoroethane
HFC-152a	1,1-difluoroethane
HHDT	Heavy-Heavy-Duty Trucks
hp	Horsepower
HVAC	Heating, Ventilation, Air Conditioning
I-215	Interstate 215

IBANK	California Infrastructure and Economic Development Bank
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resource Planning
ISO	Independent System Operator
kWh	Kilowatt Hours
lbs	Pounds
LBNL	Lawrence Berkeley National Laboratory
LCA	Life-Cycle Analysis
LCD	Liquid Crystal Display
LCFS	Low Carbon Fuel Standard or Executive Order S-01-07
LDA	Light-Duty Auto
LDT1/LDT2	Light-Duty Trucks
LEV III	Low-Emission Vehicle
LHDT1/LHDT2	Light-Heavy-Duty Trucks
LULUCF	Land-Use, Land-Use Change and Forestry
March ARB	March Air Reserve Base
March JPA	March Joint Powers Authority
MCY	Motorcycle
MDT	Medium-Duty Trucks
MDV	Medium-Duty Vehicles
MH	Motorhome
MHDT	Medium-Heavy-Duty Tucks
MMR	Mandatory Reporting Rule
$MMTCO_2e$	Million Metric Ton of Carbon Dioxide Equivalent
mpg	Miles Per Gallon
MPOs	Metropolitan Planning Organizations
$MMTCO_2e$/yr	Million Metric Ton of Carbon Dioxide Equivalent Per Year
MT/yr	Metric Tons Per Year
$MTCO_2e$	Metric Ton of Carbon Dioxide Equivalent
$MTCO_2e$/yr	Metric Ton of Carbon Dioxide Equivalent Per Year
MW	Megawatts
MWh	Megawatts Per Hour
MWELO	California Department of Water Resources' Model Water Efficient
N_2O	Nitrous Oxide
NDC	Nationally Determined Contributions
NF_3	Nitrogen Trifluoride
NHTSA	National Highway Traffic Safety Administration

NIOSH	National Institute for Occupational Safety and Health
NO_X	Nitrogen Oxides
Non-Annex I	Developing Nations
OAL	Office of Administrative Law
OBUS	Other Buses
OPR	Office of Planning and Research
PFC	Perfluorocarbons
ppb	Parts Per Billion
ppm	Parts Per Million
ppt	Parts Per Trillion
Project	Meridian D-1 Gateway Aviation Center
RPS	Renewable Portfolio Standards
RTP	Regional Transportation Plan
SAR	Second Assessment Report
SB	Senate Bill
SB 32	California Global Warming Solutions Act of 2006
SB 375	Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies
SB 1078	Renewable Portfolio Standards
SB 1368	Statewide Retail Provider Emissions Performance Standards
SBUS	School Buses
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
Scoping Plan	California Air Resources Board Climate Change Scoping Plan
SCS	Sustainable Communities Strategy
SEER	Season Energy Efficiency Ratio
sf	Square Feet
SF_6	Sulfur Hexaflouride
SGC	Strategic Growth Council
SLPS	Short-Lived Climate Pollutant Strategy
SP	Service Population
Supreme Court	United States Supreme Court
SWCRB	State Water Resources Control Board
TA	*Gateway Aviation Traffic Impact Analysis*
Title 20	Appliance Energy Efficiency Standards
Title 24	California Building Code

U.N.	United Nations
U.S.	United States
UBUS	Urban Buses
UNFCCC	United Nations' Framework Convention on Climate Change
URBEMIS	Urban Emissions
UTR	Utility Tractors
VFP	Vehicle Fueling Positions
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
WCI	Western Climate Initiative
WRI	World Resources Institute
ZE/NZE	Zero and Near-Zero Emissions
ZEV	Zero-Emissions Vehicles

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Meridian D-1 Gateway Aviation Center Greenhouse Gas Analysis* (GHGA) are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines* (*CEQA Guidelines*) as implemented by March JPA (1). Table ES-1 shows the findings of significance for each potential greenhouse gas (GHG) impact under CEQA before and after any required mitigation described below.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings		
		Unmitigated	**Mitigation Measure**	**Mitigated**
GHG Impact #1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	6.0	*Potentially Significant*	*MM GHG-1 and MM AQ-1 through MM AQ-5*	*Less Than Significant*
GHG Impact #2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	6.0	*Potentially Significant*	*MM GHG-1 and MM AQ-1 through MM AQ-5*	*Less Than Significant*

ES.2 STANDARD REGULATORY REQUIREMENTS

The Project would be required to comply with regulations imposed by the State of California and the South Coast Air Quality Management District (SCAQMD) aimed at the reduction of GHG emissions. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of GHG emissions include:

- Global Warming Solutions Act of 2006 (Assembly Bill (AB) 32) (2).
- Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies (Senate Bill (SB) 375) (3).
- Pavley Fuel Efficiency Standards (AB 1493). Establishes fuel efficiency ratings for new vehicles (4).
- California Building Code (Title 24 California Code of Regulations (CCR)). Establishes energy efficiency requirements for new construction (5).
- Appliance Energy Efficiency Standards (Title 20 CCR). Establishes energy efficiency requirements for appliances (6).

- Low Carbon Fuel Standard (LCFS). Requires carbon content of fuel sold in California to be 10 percent (%) less by 2020 (7).
- Low Carbon Fuel Standard (LCFS) 2030 Update. Requires carbon content of fuel sold in California to be 20 percent (5) less by 2030 (8)
- California Water Conservation in Landscaping Act of 2006 (AB 1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010 to ensure efficient landscapes in new development and reduced water waste in existing landscapes (9).
- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions (10).
- Renewable Portfolio Standards (SB 1078 – also referred to as RPS). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20% by 2010 and 33% by 2020 (11). This was amended by SB 350 which mandated 50% by 2030. This was further modified by SB 100 which set a target of 60% by 2030 and 100% by 2045.
- California Global Warming Solutions Act of 2006 (SB 32). Requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15 (12).

Promulgated regulations that will affect the Project's emissions are accounted for in the Project's GHG calculations provided in this report. In particular, AB 1493, LCFS, and RPS, and therefore are accounted for in the Project's emission calculations.

ES.3 PROJECT MITIGATION MEASURES (MM)

The following measures are designed to reduce Project operational-source GHG emissions. However, it should be noted that for many of these measures, there is no way to quantify these reductions in the California Emissions Estimator Model (CalEEMod). As such, reductions for some of these measures are not included in this report. Notwithstanding, compliance with the mitigation measures below also serve to meet compliance with the Riverside County Climate Action Plan (CAP).

MM GHG-1 (INSTALLATION OF EV CHARGING STATIONS)

Prior to issuance of a building permit, March Joint Powers Authority shall ensure that the Proposed Project plans include the circuitry, capacity and equipment for EV charging stations in accordance with Tier 2 of the 2022 CALGreen Code.

The following mitigation measures relating to air quality are also incorporated herein to reduce impacts related to GHG emissions:

MM AQ-1 (CONSTRUCTION MANAGEMENT PLAN)

Prior to the issuance of a grading permit, the applicant shall prepare and submit to the March Joint Powers Authority for approval a Construction Management Plan to ensure that off-road diesel construction equipment rated at 50 horsepower (hp) or greater, complies with Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 4 off-road emissions standards or equivalent and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications. All equipment maintenance records and data sheets, including design specifications and emission control tier classifications shall be kept onsite and furnished to the March JPA or other regulators upon request.

MM AQ-2 (CONSTRUCTION REQUIREMENTS)

Prior to issuance of a grading permit and/or building permit, the applicant shall provide evidence to March Joint Powers Authority (JPA) that the subject plans contain the following requirements and restrictions:

A. No grading shall occur on days with an Air Quality Index forecast greater than 150 for particulates or ozone as forecasted for the project area (Source Receptor Area 24).

B. Active ground disturbance shall not exceed 20 acres per day.

C. Contractor shall require all heavy-duty trucks hauling onto the project site to be model year 2014 or later. This measure shall not apply to trucks that are not owned or operated by the contractor since it would be infeasible to prohibit access to the site by any truck that is otherwise legal to operate on California roads and highways.

D. No construction equipment idling longer than three (3) minutes shall be permitted. No off-road diesel-powered equipment shall be in the "on" position for more than 8 hours per day.

E. No diesel-powered portable generators shall be used, unless necessary due to emergency situations or constrained supply.

F. Contractor required to provide transit and ridesharing information to onsite construction workers.

G. Contractor required to establish location for food or catering truck service to construction workers and to cooperate with food service providers to provide consistent food service.

H. Use of electric-powered hand tools, forklifts and pressure washers, to the extent feasible.

I. Designation of an area in the construction site where electric-powered construction vehicles and equipment can charge.

J. Project will utilize "Super-Compliant" low VOC paints which have been reformulated to exceed the regulatory VOC limits put forth by SCAQMD's Rule 1113. Super-Compliant low VOC paints shall be no more than 10 grams per liter (g/L) of VOC. Alternatively, the applicant may utilize tilt-up concrete buildings that do not require the use of architectural coatings.

MM AQ-3 (IMPROVED ENERGY EFFICIENCY AND WATER REDUCTION)

A. Building Design - Prior to issuance of a building permit, March JPA shall confirm building plans include the following:

    i. Building constructed to achieve 2023 LEED Silver certification standards or equivalent, at a minimum.

    ii. Energy Star-certified light bulbs and light fixtures.

    iii. Duct insulation to a minimum level (R-6) of and modestly enhanced window insulation (0.28 or less U-factor, 0.22 or less SHGC).

    iv. A modest cool roof, defined as Cool Roof Rating Council Rated 0.15 aged solar reflectance and 0.75 thermal emittance.

v. Heating, ventilation, and air conditioning equipment with a season energy efficiency ratio of 14 or higher and energy efficiency ratio [EER] 14/78% annual fuel utilization efficiency [AFUE] or 8 heating seasonal performance factor [HSPF].

vi. Water heaters with an energy factor of 0.92 or higher.

vii. All occupied rooms shall have some form of daylighting (e.g., skylights or windows).

viii. At least 50% of artificial lighting unit fixtures shall be high efficacy.

ix. Waterless urinals and high efficiency toilets.

x. Water-efficient faucets (1.28 gpm).

xi. Blower door home energy rating system (HERS) verified envelope leakage or equivalent.

xii. Enhanced insulation (rigid wall insulation R-13 or equivalent, roof/attic R-38).

xiii. Cool surface treatments on all drive aisles and parking areas or with a solar-reflective cool pavement such as concrete subject to ALUC approval.

B. Landscape Design – Prior to issuance of a building permit, March JPA shall confirm building and landscaping plans include the following:

i. Electrical outlets to each of the areas in the vicinity of the building that are to be landscaped so that electrical equipment shall be used for landscape maintenance. This measure may also be satisfied by locating charging stations around the building to accommodate battery-operated equipment.

ii. Landscape non-potable water system shall meet "purple" pipe standards.

iii. Water efficient landscaping having no turf and only drought-tolerant plants and including additional water-efficient irrigation controls such as smart irrigation controllers.

C. Tenant Agreement Requirements – Prior to issuance of a certificate of occupancy, March JPA shall confirm any tenant agreement includes the following:

i. Require the use of electric or battery-operated equipment for landscape maintenance.

ii. Require the use of electric service yard trucks (hostlers), pallet jacks and forklifts, and other on-site equipment, with necessary electrical charging stations provided. Yard hostlers may be diesel fueled in lieu of electrically powered, provided that the occupant submits a letter identifying that electric hostlers are technically infeasible and provided such yard hostlers are compliant with California Air Resources Board (CARB) Tier 4 Final compliant for off-road vehicles. As an alternative, hydrogen fuel-cell or compressed natural gas (CNG)-powered equipment shall also be acceptable.

iii. Require provision of the following information annually to employees and truck drivers as appropriate:

a. Building energy efficiency, solid waste reduction, recycling, and water conservation.

b. Vehicle GHG emissions, electric vehicle charging availability, and alternate transportation opportunities for commuting.

c. Participation in the Voluntary Interindustry Commerce Solutions (VICS) "Empty Miles" program to improve goods trucking efficiencies.

d. Health effects of diesel particulates, state regulations limiting truck idling time, and the benefits of minimized idling.

e. The importance of minimizing traffic, noise, and air pollutant impacts to any residences in the Project vicinity.

f. Efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks.

MM AQ-4 (TRUCK REQUIREMENTS)

A. Building Design – Prior to issuance of a building permit, March Joint Powers Authority (JPA) shall confirm the following:

i. The loading docks shall be designed to accommodate SmartWay trucks.

ii. Conduit shall be installed in truck courts in logical locations that would allow for the future installation of charging stations for electric trucks, in anticipation of this technology becoming available.

iii. Applicant shall provide project specifications, drawings, and calculations that demonstrate that main electrical supply lines and panels have been sized to support 'clean fleet' charging facilities, including heavy trucks and delivery vehicles, when these trucks become available. The calculations shall be based on reasonable predictions from currently available truck manufacturer's data. Electrical system upgrades that exceed reasonable costs shall not be required.

B. Anti-Idling Signs – Prior to issuance of a certificate of occupancy, March JPA shall confirm the following:

i. Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable California Air Resources Board (CARB) anti-idling regulations. At a minimum, each sign shall include (1) instructions for truck drivers to shut off engines when not in use; (2) instructions for drivers of diesel trucks to restrict idling to no more than three (3) minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; and (3) telephone numbers of the building facilities manager, South Coast Air Quality Management District, and CARB to report violations. Prior to the issuance of an occupancy permit, March JPA shall conduct a site inspection to ensure that the signs are in place. One six square foot sign providing this information shall be located on the building between every two dock-high doors and the sign shall be posted in highly visible locations at the entrance gates, semi parking areas, and trailer parking locations.

C. Prior to issuance of a certificate of occupancy, March Joint Powers Authority shall confirm any tenant agreement includes the following:

i. Tenant to apply in good faith for funding to replace/retrofit their trucks, such as Carl Moyer, VIP, Prop 1B, SmartWay Finance, or other similar funds. If awarded, the tenant shall be required to accept and use the funding. Tenant shall be encouraged to consider the use of alternative fueled trucks, as well as new or retrofitted diesel trucks. Tenant shall also be encouraged to become SmartWay Partners, if eligible.

ii. Tenant shall monitor and ensure compliance with all current air quality regulations for on-road trucks including CARB's Heavy-Duty (Tractor-trailer) Greenhouse Gas Regulation, Periodic Smoke Inspection Program, and the Statewide Truck and Bus Regulation, as applicable.

MM AQ-5 (Commute Trip Reduction)

Prior to issuance of a certificate of occupancy, March Joint Powers Authority shall confirm any tenant agreement includes the following:

A. Reservation of a total of 5% of vehicle/employee parking spaces for preferential spaces for carpools and van pools.

B. Provision of short- and long- term bicycle parking facilities to meet peak season maximum demand (one bike rack space per 20 vehicle/employee parking spaces).

C. Provision of "end-of-trip" facilities including showers, lockers, and changing space (four clothes lockers and one shower provided for every 80 employee parking spaces).

D. Provision of on-site food vending machines or refrigerator, microwave oven, and mail facilities (i.e., drop box) at the project site. Office space shall include an on-site computer, internet connection, and other services for personal employee use.

E. Requirement to establish and promote a rideshare program that discourages single-occupancy vehicle trips and provides financial incentives for alternate modes of transportation, including carpooling, public transit, and biking.

MM AQ-6 (Additional Air Quality Tenant Requirements)

Prior to issuance of a certificate of occupancy, March JPA shall confirm any tenant agreement includes the following:

A. Tenant shall not use diesel back-up generators, unless absolutely necessary. Tenant shall provide documentation demonstrating, to March JPA's satisfaction, that no other back-up energy source(s) are available and sufficient for the building's needs. If absolutely necessary, at the time of initial operation, generators shall have Best Available Control Technology (BACT) that meets CARB's Tier 4 emission standards or meets the most stringent in-use standard, whichever has the least emissions. In the event rental back-up generators are required during an emergency, the units shall be located at the project site for only the minimum time required. Tenant shall make every effort to utilize rental emergency backup generators that meet CARB's Tier 4 emission standards or have the least emissions.

B. Tenant shall sweep the property monthly, including parking lot and truck court, to remove road dust, tire wear, brake dust, and other contaminants.

C. Tenant shall comply with all applicable requirements of the MMRP, a copy of which shall be attached to each agreement.

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1 INTRODUCTION

This report presents the results of the GHGA prepared by Urban Crossroads, Inc., for the proposed Meridian D-1 Meridian D-1 Gateway Aviation Center (Project). The purpose of this GHGA is to evaluate Project-related construction and operational emissions and determine the level of GHG impacts as a result of constructing and operating the Project.

1.1 SITE LOCATION

The proposed Project site is located within the southeastern portion of the March JPA jurisdiction, within unincorporated Riverside County, California (see Exhibit 1-A). More specifically, the Project is surrounded by and partially within March Air Reserve Base (March ARB) to the north and west, west of Heacock Street, and southwest of the intersection of Heacock Street and Krameria Avenue, in Moreno Valley, California. Interstate 215 (I-215) is located approximately one (1) mile west of the Project site.

1.2 PROJECT DESCRIPTION

The proposed Project consists of two components: Air Cargo Center Component and the Off-Site Component. The footprint of the Proposed Action/Project would be approximately 45 acres. Of these 45 acres, approximately 33 acres would consist of the proposed development of a gateway air freight cargo center (the Air Cargo Center Component), The rest of the Proposed Action/Project's 45-acre footprint would be an Off-Site Component consisting of approximately 12 acres within March Air Reserve Base (March ARB).

The Air Cargo Center Component of the Project includes the development of a gateway air freight cargo center, which consists of construction of a 180,800 square foot cargo building with 9 at-grade (ground level) loading doors, 31 dock-high door positions, and 37 trailer storage positions. The cargo building would contain approximately 9,000 square feet of office space. The cargo building would be constructed to a maximum height of 45-feet. The Project would also construct a tarmac and parking apron sized to accommodate commercial cargo airplanes, allowing for aircraft to access 4 proposed parking gates along the northern side of the cargo building (see Exhibit 1-B). The tarmac/parking apron would be paved to meet Federal Aviation Administration (FAA) standards. The construction of a new taxilane (Taxilane J) would provide aircraft access to the existing Taxiway A within March ARB. In addition, the existing Taxiway G is proposed to be expanded with the construction of a parking apron adjacent to the western boundary of the cargo building, within the March JPA and would allow for aircraft to access 3 proposed aircraft parking gates along the western side of the cargo building. The proposed tarmac expansion, Taxilane J, and parking aprons would be sized to accommodate commercial cargo airplanes and would be paved to meet FAA standards. Parking aprons would connect with existing Taxiways A and G, which would be used by aircraft to access the March Inland Port Airport runway. Construction and development activities within the public right-of-way along Heacock Street would include construction of a 225-foot right-turn pocket into the project site along the southbound side of Heacock Street, and installation of a traffic signal at the existing access roadway (Access Road).

The Off-site Component of the Project would include construction of Project features on land owned by March ARB. Development occurring on March ARB would require easements from the United States Air Force within 5 work areas as identified below:

- **Work Area 1:** Construction of a 50-foot-wide perimeter patrol road running along the northern and northwestern boundaries of the Project site that would connect with the existing patrol road on the eastern and western ends of the constructed patrol road; replacement of an existing chain-link fence with a security fence.
- **Work Area 2:** Construction of a headwall and inlet apron for a storm drain culvert; extension of a dual 36-inch-diameter storm drain backbone via jack and bore under Taxiway A to replace the existing silt-filled culvert; connection of the culvert to the storm drain extension.
- **Work Area 3:** Reconfiguration of the Taxiway A to Taxilane J transition to allow for aircraft access to the proposed cargo building. Portions of Taxiway A would be demolished and reconstructed to allow for the taxiway to connect with the proposed Taxilane J within the proposed Project.
- **Work Area 4:** Removal of an existing inverted culvert apron outlet; cleaning of the existing 36-inch-diameter culvert; extension of the existing single 36-inch diameter storm drain under Taxiway A via jack and bore to connect the culvert.
- **Work Area 5:** Reconstruction and realignment of the intersection of Taxiway A and taxiway G. This would result in widened entryway for aircraft to turn from Taxiway A to Taxiway G, and to accommodate aircraft access to the aircraft parking stations along the western boundary of the cargo building.

Once constructed, the Project is anticipated to average 17 flights per day, as shown in Table 1-1 below. Flight would occur 6 days a week. Generally, inbound flights would occur in the early morning hours, and outbound flights would occur in the late evening hours. Inbound flights would approach from the west, over non-residential land uses. During the holiday season, increased flight operations would be anticipated (estimated to result in an additional 256 flights over a 4-week period); however, the maximum annual flight operations would not exceed the currently available civilian air cargo operations capacity under the Joint Use Agreement.

Aircraft-related operational emissions provided by Mead & Hunt are provided in Appendix 5.5 and were based on Project-specific data and modeled using the FAA's Aviation Environmental Design Tool (AEDT) version 3C.

Refueling of aircrafts that would use the proposed facilities would occur on site. Aircraft fuel would be trucked from the existing March JPA aircraft fuel farm located off site; emissions associated with the trucked fuel are included in AEDT.

TABLE 1-1: PROPOSED FLIGHT OPERATIONS

Average Daily Arrival Operations (Non-Peak)			Average Daily Departures (Non-Peak)			Average Daily Arrival Operations (Peak)			Average Daily Departures (Peak)			Total Average Daily Departures (Non-Peak)	Total Average Daily Departures (Peak)	Total Annual Operations
D	E	N	D	E	N	D	E	N	D	E	N			
14	3	0	3	12	2[A]	15	7	0	7	13	2	17	22	10,608

Notes; D = Day; E = Evening; N = Night
[A] This represents an overstatement of the average daily nighttime flight operations during non-peak hours, which is approximately 1.6 flight operations.

This analysis is intended to describe GHG impacts associated with the expected construction and operational activities at the Project site. Although not proposed, this report assumes the cargo center will operate 24-hours daily for seven days per week to present a conservative approach.

EXHIBIT 1-A: LOCATION MAP

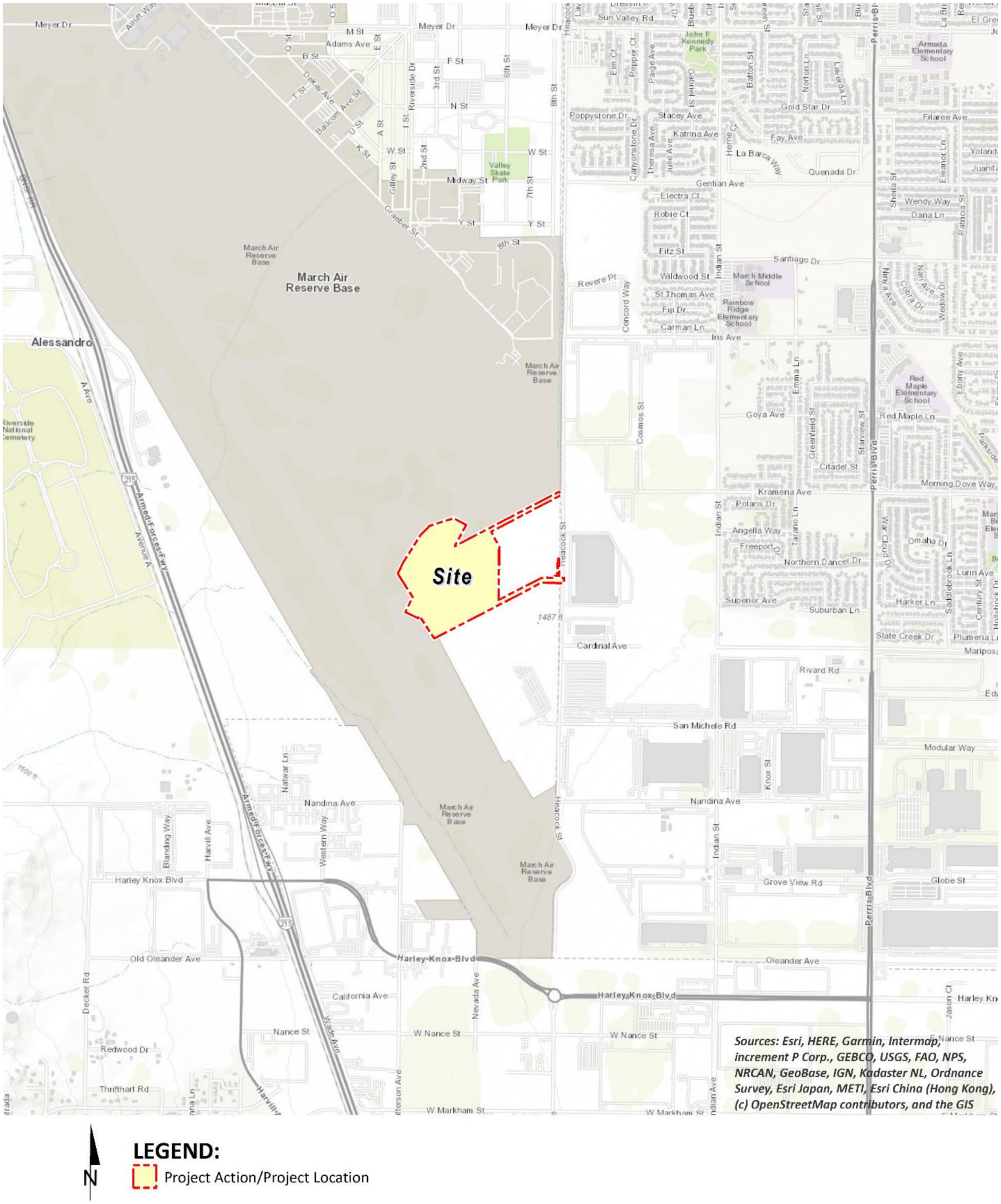
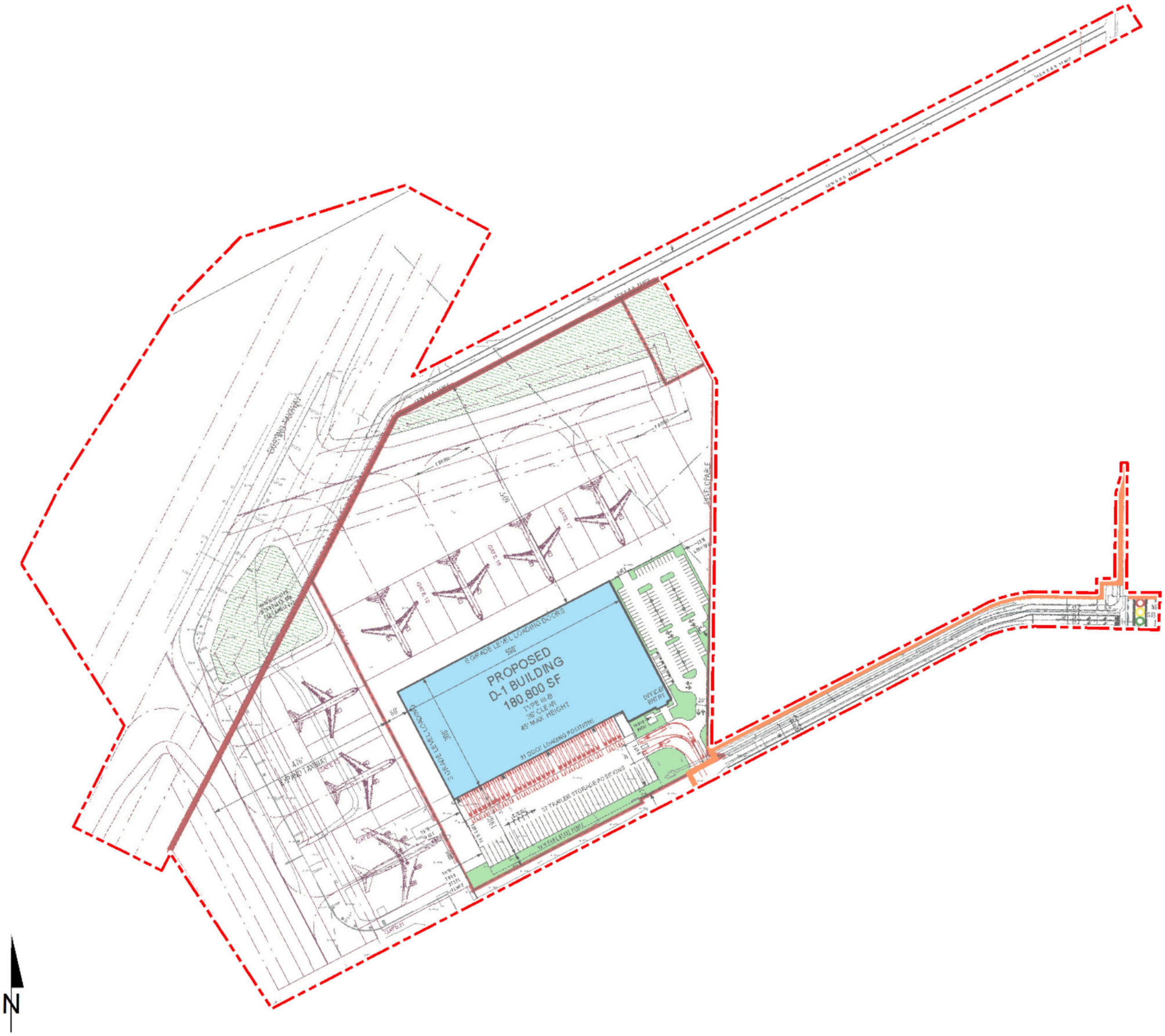


EXHIBIT 1-B: SITE PLAN



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2 CLIMATE CHANGE SETTING

2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE (GCC)

GCC is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this GHGA cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 3.0 will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

2.2 GLOBAL CLIMATE CHANGE DEFINED

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

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

2.3 GHGS

2.3.1 GHGS AND HEALTH EFFECTS

GHGs trap heat in the atmosphere, creating a GHG effect that results in global warming and climate change. Many gases demonstrate these properties, as discussed in Table 2-1. For the purposes of this analysis, emissions of CO_2, CH_4, and N_2O were evaluated (see Table 3-1 later in this report) because these gases are the primary contributors to GCC from development projects.

Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and there are not accepted emissions factors or methodology to accurately calculate these gases.

TABLE 2-1: GREENHOUSE GASES

GHG	Description	Sources	Health Effects
Water	Water is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is	The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.	There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

GHG	Description	Sources	Health Effects
	unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the earth's surface and heat it up) (13).		
CO_2	CO_2 is an odorless and colorless GHG. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30%. Left unchecked, the concentration of CO_2 in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (14).	CO_2 is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. CO_2 is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (15).	Outdoor levels of CO_2 are not high enough to result in negative health effects. According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of CO_2 can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of CO_2 in the earth's atmosphere are estimated to be approximately 370 ppm, the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15-minute period (16).

GHG	Description	Sources	Health Effects
CH_4	CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs.	CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH_4. Other anthropocentric sources include fossil-fuel combustion and biomass burning (17).	CH_4 is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to high levels of CH_4 can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate.
N_2O	N_2O, also known as laughing gas, is a colorless GHG. Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb).	N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also	N_2O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (18).

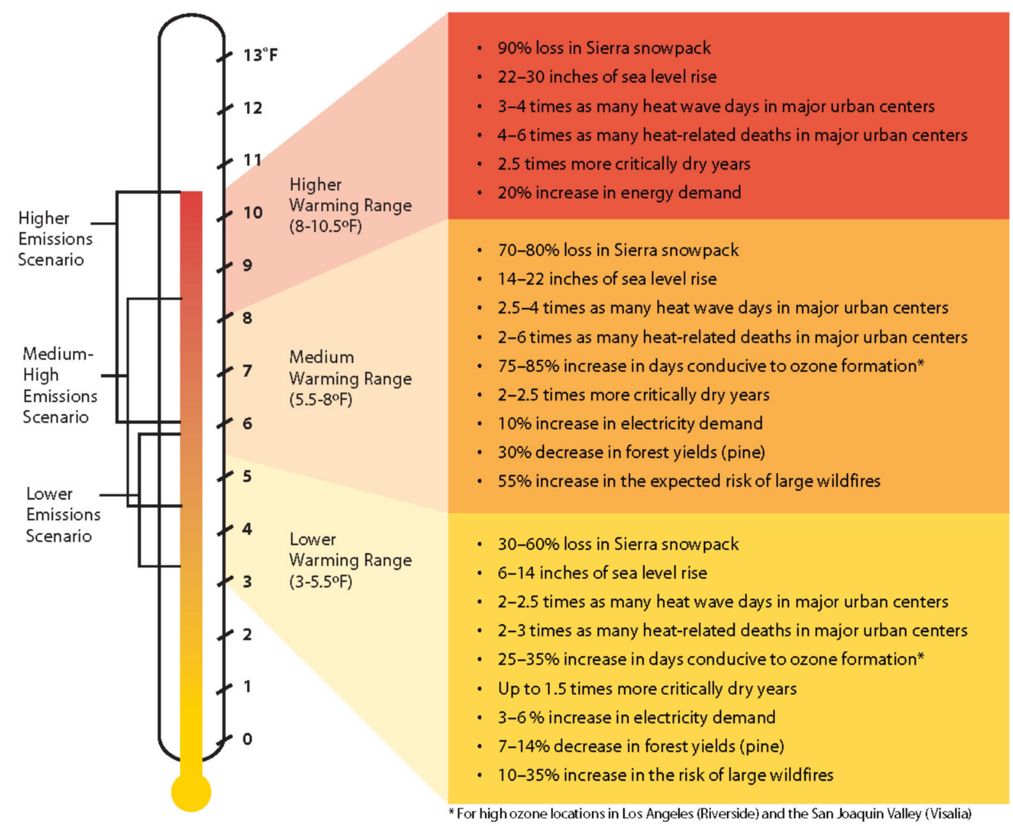
GHG	Description	Sources	Health Effects
		used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. N_2O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction (18).	
Chlorofluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).	CFCs have no natural source but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years (19).	In confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

GHG	Description	Sources	Health Effects
HFCs	HFCs are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential (GWP). The HFCs with the largest measured atmospheric abundances are (in order), fluoroform (CHF_3), 1,1,1,2-tetrafluoroethane (CH_2FCF), and 1,1-difluoroethane (CH_3CF_2). Prior to 1990, the only significant emissions were of CHF_3. CH_2FCF emissions are increasing due to its use as a refrigerant.	HFCs are manmade for applications such as automobile air conditioners and refrigerants.	No health effects are known to result from exposure to HFCs.
PFCs	PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The EPA estimates that concentrations of CF_4 in the atmosphere are over 70 parts per trillion (ppt).	The two main sources of PFCs are primary aluminum production and semiconductor manufacture.	No health effects are known to result from exposure to PFCs.
SF_6	SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900) (20). The EPA indicates that concentrations in the 1990s were about 4 ppt.	SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.	In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

GHG	Description	Sources	Health Effects
Nitrogen Trifluoride (NF_3)	NF_3 is a colorless gas with a distinctly moldy odor. The World Resources Institute (WRI) indicates that NF_3 has a 100-year GWP of 17,200 (21).	NF_3 is used in industrial processes and is produced in the manufacturing of semiconductors, Liquid Crystal Display (LCD) panels, types of solar panels, and chemical lasers.	Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis (22).

The potential health effects related directly to the emissions of CO_2, CH_4, and N_2O as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (23). Exhibit 2-A presents the potential impacts of global warming (24).

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT, 2070-2099 (AS COMPARED WITH 1961-1990)



Source: Barbara H. Allen-Diaz. "Climate change affects us all." *University of California, Agriculture and Natural Resources*, 2009.

2.4 GLOBAL WARMING POTENTIAL

GHGs have varying GWP values. GWP of a GHG indicates the amount of warming a gas causes over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO_2 is utilized as the reference gas for GWP, and thus has a GWP of 1. CO_2 equivalent (CO_2e) is a term used for describing the difference GHGs in a common unit. CO_2e signifies the amount of CO_2 which would have the equivalent GWP.

The atmospheric lifetime and GWP of selected GHGs are summarized at Table 2-2. As shown in the table below, GWP for the Second Assessment Report, the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment on climate change, range from 1 for CO_2 to 23,900 for SF_6 and GWP for the IPCC's 5th Assessment Report range from 1 for CO_2 to 23,500 for SF_6 (25).

TABLE 2-2: GWP AND ATMOSPHERIC LIFETIME OF SELECT GHGS

Gas	Atmospheric Lifetime (years)	GWP (100-year time horizon)	
		2nd Assessment Report	5th Assessment Report
CO_2	See*	1	1
CH_4	12 .4	21	28
N_2O	121	310	265
HFC-23	222	11,700	12,400
HFC-134a	13.4	1,300	1,300
HFC-152a	1.5	140	138
SF_6	3,200	23,900	23,500

*As per Appendix 8.A. of IPCC's 5th Assessment Report, no single lifetime can be given.
Source: Table 2.14 of the IPCC Fourth Assessment Report, 2007

2.5 GHG EMISSIONS INVENTORIES

2.5.1 GLOBAL

Worldwide anthropogenic GHG emissions are tracked by the IPCC for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2018. Based on the latest available data, the sum of these emissions totaled approximately 28,768,439 gigagram (Gg) CO_2e[1] (26) (27) as summarized on Table 2-3.

[1] The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2018 data, the United Nations' Framework Convention on Climate Change (UNFCCC) data for the most recent year were used U.N. Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," The most recent GHG emissions for China and India are from 2014 and 2010, respectively.

2.5.2 UNITED STATES

As noted in Table 2-3, the United States, as a single country, was the number two producer of GHG emissions in 2018.

TABLE 2-3: TOP GHG PRODUCING COUNTRIES AND THE EUROPEAN UNION [2]

Emitting Countries	GHG Emissions (Gg CO_2e)
China	12,300,200
United States	6,676,650
European Union (28-member countries)	4,232,274
Russian Federation	2,220,123
India	2,100,850
Japan	1,238,343
Total	**28,768,439**

2.5.3 STATE OF CALIFORNIA

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls but is still a substantial contributor to the United States (U.S.) emissions inventory total (28). The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2021 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2019 GHG emissions period, California emitted an average 418.2 million metric tons of CO_2e per year ($MMTCO_2e/yr$) or 418,200 Gg CO_2e (6.26% of the total United States GHG emissions) (29). Table 2-4 below presents the most recent annual GHG emissions for the State of California and the County of Riverside.

TABLE 2-4: CALIFORNIA AND RIVERSIDE COUNTY ANNUAL GHG EMISSIONS [3]

Source	GHG Emissions (Gg CO_2e)
California	418,200
Riverside County	4,906

[2] Used http://unfccc.int data for Annex I countries. Consulted the CAIT Climate Data Explorer in https://www.climatewatchdata.org site to reference Non-Annex I countries of China and India.

[3] Used CARB 2021 data for California emissions and County of Riverside 2019 CAP data (2017 inventory year) for Riverside County data.

2.6 EFFECTS OF CLIMATE CHANGE IN CALIFORNIA

2.6.1 PUBLIC HEALTH

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35% under the lower warming range to 75 to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. Based on *Our Changing Climate Assessing the Risks to California by the California Climate Change Center*, large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced (30).

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

2.6.2 WATER RESOURCES

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

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90%. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

2.6.3 AGRICULTURE

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25% of the water supply needed. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

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

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

2.6.4 FORESTS AND LANDSCAPES

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90% due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

2.6.5 RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

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3 REGULATORY SETTING

3.1 INTERNATIONAL

Climate change is a global issue involving GHG emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce GHGs.

IPCC

In 1988, the United Nations (U.N.) and the World Meteorological Organization established the IPCC to assess the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

UNITED NATION'S FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

On March 21, 1994, the U.S. joined a number of countries around the world in signing the Convention. Under the UNFCCC, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

INTERNATIONAL CLIMATE CHANGE TREATIES

The Kyoto Protocol is an international agreement linked to the UNFCCC. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of 5% against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the UN Climate Change Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2 degrees Celsius (°C) above pre-industrial levels, subject to a review in 2015. The Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings gradually gained consensus among participants on individual climate change issues.

On September 23, 2014, more than 100 Heads of State and Government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the U.N. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the UNFCCC reached a landmark agreement on December 12, 2015 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties (COP) 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2°C, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make “nationally determined contributions” (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and “progress made in implementing and achieving” their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they will “represent a progression” beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address “loss and damage” resulting from climate change, which explicitly will not “involve or provide a basis for any liability or compensation;”
- Require parties engaging in international emissions trading to avoid “double counting;” and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country’s NDC (C2ES 2015a) (31).

Following President Biden’s day one executive order, the United States officially rejoined the landmark Paris Agreement on February 19, 2021, positioning the country to once again be part of the global climate solution. Meanwhile, city, state, business, and civic leaders across the country and around the world have been ramping up efforts to drive the clean energy advances needed to meet the goals of the agreement and put the brakes on dangerous climate change.

3.2 NATIONAL

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

GHG ENDANGERMENT

In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the United States Supreme Court (Supreme Court) found that four GHGs, including CO_2, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act (CAA). The Supreme Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs— CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator's findings (32).

CLEAN VEHICLES

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the U.S. On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the U.S.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty (MD) passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the NHTSA issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012. The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and MD passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 mpg if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks (HDT) and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20% reduction in CO_2 emissions and fuel consumption by the 2018 model year. For HDT and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10% reduction for gasoline vehicles and a 15% reduction for diesel vehicles by the 2018 model year (12 and 17% respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10% reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

On April 2, 2018, the EPA signed the Mid-term Evaluation Final Determination, which declared that the MY 2022-2025 GHG standards are not appropriate and should be revised (33). This Final Determination serves to initiate a notice to further consider appropriate standards for MY 2022-2025 light-duty vehicles. On August 2, 2018, the NHTSA in conjunction with the EPA, released a notice of proposed rulemaking, the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule). The SAFE Vehicles Rule was proposed to amend existing Corporate Average Fuel Economy (CAFE) and tailpipe CO_2 standards for passenger cars and light trucks and to establish new standards covering model years 2021 through 2026. As of March 31, 2020, the NHTSA and EPA finalized the SAFE Vehicle Rule which increased stringency of CAFE and CO_2 emissions standards by 1.5% each year through model year 2026 (34). On December 21, 2021, after reviewing all the public comments submitted on NHTSA's April 2021 Notice of Proposed Rulemaking, NHTSA finalizes the CAFE Preemption rulemaking to withdraw its portions of the so-called SAFE I Rule. The final rule concludes that the SAFE I Rule overstepped the agency's legal authority and established overly broad prohibitions that did not account for a variety of important state and local interests. The final rule ensures that the SAFE I Rule will no longer form an improper barrier to states exploring creative solutions to address their local communities' environmental and public health challenges (35).

On March 31, 2022, NHTSA finalized CAFE standards for MY 2024-2026. The standards for passenger cars and light trucks for MYs 2024-2025 were increased at a rate of 8% per year and then increased at a rate of 10% per year for MY 2026 vehicles. NHTSA currently projects that the revised standards would require an industry fleet-wide average of roughly 49 mpg in MY 2026 and would reduce average fuel outlays over the lifetimes of affected vehicles that provide consumers hundreds of dollars in net savings. These standards are directly responsive to the agency's statutory mandate to improve energy conservation and reduce the nation's energy dependence on foreign sources (35).

MANDATORY REPORTING OF GHGS

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S. and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons per year (MT/yr) or more of GHG emissions are required to submit annual reports to the EPA.

NEW SOURCE REVIEW

The EPA issued a final rule on May 13, 2010, that establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these CAA permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the Federal Code of Regulations, the EPA states:

> *"This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the CAA, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for GHG emissions until at least April 30, 2016."*

The EPA estimates that facilities responsible for nearly 70% of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

STANDARDS OF PERFORMANCE FOR GHG EMISSIONS FOR NEW STATIONARY SOURCES: ELECTRIC UTILITY GENERATING UNITS

As required by a settlement agreement, the EPA proposed new performance standards for emissions of CO_2 for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts (MW) would be required to meet an output-based standard of 1,000 pounds (lbs) of CO_2 per MW-hour (MWh), based on the performance of widely used natural gas combined cycle technology. It should be noted that on February 9, 2016, the Supreme Court issued a stay of this regulation pending litigation. Additionally, the current EPA Administrator has also signed a measure to repeal the Clean Power Plan, including the CO_2 standards. The Clean Power Plan was officially repealed on June 19, 2019, when the EPA issued the final Affordable Clean Energy rule (ACE). Under ACE, new state-specific emission guidelines were established that provided existing coal-fired electric utility generating units with achievable standards.

On January 19, 2021, the D.C. Circuit Court of Appeals ruled that the EPA's ACE Rule for GHG emissions from power plants rested on an erroneous interpretation of the CAA that barred EPA from considering measures beyond those that apply at and to an individual source. The court therefore vacated and remanded the ACE Rule and adopted a replacement rule which regulates CO_2 emissions from existing power plants, potentially again considering generation shifting and other measures to more aggressively target power sector emissions.

CAP-AND-TRADE

Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. Successful examples in the U.S. include the Acid Rain Program and the N_2O Budget Trading Program and Clean Air Interstate Rule in the northeast. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Regional GHG Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps CO_2 emissions from power plants, auctions CO_2 emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008 and in 2020 has retained all participating states.

The Western Climate Initiative (WCI) partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15% below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, British Columbia, Manitoba, and Ontario are not currently participating. Nova Scotia joined in 2018 and the State of Washington joined in 2021. California linked with Quebec's cap-and-trade system January 1, 2014, and joint offset auctions took place in 2015. While the WCI has yet to publish whether it has successfully reached the 2020 emissions goal initiative set in 2007, SB 32 requires that California, a major partner in the WCI, adopt the goal of reducing statewide GHG emissions to 40% below the 1990 level by 2030.

SMARTWAY PROGRAM

The SmartWay Program is a public-private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both GHG emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components (36):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.
2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared towards reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements.

Moreover, over time, all HDTs will have to comply with the CARB GHG Regulation that is designed with the SmartWay Program in mind, to reduce GHG emissions by making them more fuel-efficient. For instance, in 2015, 53 foot or longer dry vans or refrigerated trailers equipped with a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain a total of 10% or more fuel savings over traditional trailers.

Through the SmartWay Technology Program, the EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions and fuel economy testing, demonstration projects and technical literature review. As a result, the EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies – less idling of the engine when it is not needed would reduce fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel will eventually slow down because of this resistance.
- Retrofit technologies include things such as diesel particulate filters, emissions upgrades (to a higher tier), etc., which would reduce emissions.
- Federal excise tax exemptions.

3.3 MULTISTATE

WESTERN CLIMATE INITIATIVE (WCI)

The WCI is a partnership among seven different US states and four Canadian provinces aimed at developing a regional cap-and-trade economy to reduce GHG emissions. The following comes from the WC's website (37):

> *The WCI was built on existing greenhouse gas reduction efforts in the individual states as well as two existing regional efforts. In 2003, California, Oregon and Washington created the West Coast Global Warming Initiative, and in 2006, Arizona and New Mexico launched the Southwest Climate Change Initiative.*
>
> *During 2007 and 2008, the Premiers of British Columbia, Manitoba, Ontario, and Quebec, and the Governors of Montana and Utah joined the original five states in committing to tackle climate change at a regional level. All 11 jurisdictions collaborated in the development of the Design for the WCI Regional Program, which was released in July 2010.*
>
> *In November 2011, the Western Climate Initiative formed Western Climate Initiative, Inc. (WCI, Inc.), a non-profit corporation that will provide administrative*

and technical services to support the implementation of state and provincial greenhouse gas emissions trading programs.

British Columbia, California, Ontario, Quebec and Manitoba are continuing to work together through the Western Climate Initiative to develop and harmonize their emissions trading program policies. They are also continuing to work with Western, Midwestern, and Northeast states on a range of other climate and clean energy strategies through the North America 2050 Initiative. North America 2050 is a forum for states, provinces and stakeholders to identify leadership opportunities in climate and clean energy policy. (38)

PACIFIC COAST ACTION PLAN ON CLIMATE AND ENERGY

The governors of California, Oregon, Washington and the Premier of British Columbia have joined together to produce the Pacific Coast Action Plan signed on October 28, 2013 to reduce GHG emissions among other goals. The plan organizes their Pacific coast economies around several initiatives including (39):

- Leading national and international policy on climate change
    - Accounting for a price on carbon.
    - Harmonizing 2050 targets for GHG emission reductions and developing midterm targets need for long-term reduction goals.
    - Affirming the need to inform policy with climate science findings.
- Transition the West Coast to clean modes of transportation including 100% zero emissions vehicles by 2050
    - Continuing deployment of high-speed rail.
    - Supporting emerging markets and innovation for alternative fuels in trucks, buses, rail, and ports.
- Invest in clean energy and climate-resilient infrastructure including transforming the energy efficiency market and lead the way to net-zero buildings.

3.4 CALIFORNIA

3.4.1 LEGISLATIVE ACTIONS TO REDUCE GHGS

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32

The California State Legislature enacted AB 32, which required that GHGs emitted in California be reduced to 1990 levels by the year 2020 (this goal has been met[4]). GHGs as defined under AB 32 include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since AB 32 was enacted, a seventh chemical, NF_3, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32, CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

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

SB 375

On September 30, 2008, SB 375 was signed by Governor Schwarzenegger. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40% of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: it (1) requires metropolitan planning organizations (MPOs) to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

SB 375 requires MPOs to prepare a Sustainable Communities Strategy (SCS) within the Regional Transportation Plan (RTP) that guides growth while taking into account the transportation, housing, environmental, and economic needs of the region. SB 375 uses CEQA streamlining as an incentive to encourage residential projects, which help achieve AB 32 goals to reduce GHG emissions. Although SB 375 does not prevent CARB from adopting additional regulations, such actions are not anticipated in the foreseeable future.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that CARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).

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[4] Based upon the 2021 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2019 GHG emissions period, California emitted an average 418.2 $MMTCO_2e$ (29). This is less than the 2020 emissions target of 431 $MMTCO_2e$.

3. Incorporates the MMs required by an applicable prior environmental document.

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG) REGIONAL TRANSPORTATION/SUSTAINABLE COMMUNITIES STRATEGIES (RTP/SCS)

The SCAG RTP/SCS is a long-range transportation plan that is developed and updated by SCAG every four years. The RTP provides a vision for transportation investments throughout the region. The SCS will integrate land use and transportation strategies that will achieve GHG emissions reduction targets that are forecasted to achieve reduction in GHG emissions to achieve the state's GHG reduction goals.

SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (2016 RTP/SCS or Plan). The Plan is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The Plan charts a course for closely integrating land use and transportation – so that the region can grow smartly and sustainably (40).

On September 3, 2020, SCAG's Regional Council unanimously voted to approve and fully adopt the 2020-2045 RTP/SCS embodies a collective vision for the region's future and is developed with input from local governments. The RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for 2035, 2045 and establishes an overall GHG target for the region consistent with both the statewide GHG-reduction targets for the post-2020 statewide GHG reduction goals. The 2020-2045 RTP/SCS is a long-range visioning plan to encourage and promote the safe and efficient management, operation, and development of a regional intermodal transportation system that, when linked with appropriate land use planning, will serve the mobility needs of goods and people. Future investments seek to reduce traffic bottlenecks, improve the efficiency of the region's network, and expand mobility choices. The RTP/SCS is an important planning document for the region, allowing project sponsors to qualify for federal funding. In addition, the RTP/SCS is supported by a combination of transportation and land use strategies that help the region achieve state GHG emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support the vital goods movement industry, and use resources more efficiently.

AB 1493 - Pavley Fuel Efficiency Standards

Enacted on July 22, 2002, California AB 1493, also known as the Pavley Fuel Efficiency Standards, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 MY. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program (LEV III) or the Advanced Clean Cars (ACC) program. The ACC program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for MY 2017 through 2025. The regulation will reduce GHGs from new cars by 34% from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid EV and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California. On March 9, 2022, the EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards for cars and light trucks, which other states can also adopt and enforce. With this authority restored, EPA will continue partnering with states to advance the next generation of clean vehicle technologies.

CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 (SB 350)

In October 2015, the legislature approved, and Governor Jerry Brown signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for EV charging stations. Provisions for a 50% reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 45% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

SB 32

On September 8, 2016, Governor Brown signed SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. SB 32 builds upon the AB 32 goal and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (12).

2017 CARB SCOPING PLAN

In November 2017, CARB released the *Final 2017 Scoping Plan Update* (*2017 Scoping Plan*), which identifies the State's post-2020 reduction strategy. The *2017 Scoping Plan* reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB

32. The *2017 Scoping Plan* builds upon the Cap-and-Trade Regulation, the LCFS, and key programs to develop much cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce CH_4 emissions from agricultural and other wastes.

The *2017 Scoping Plan* establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40% decrease in 1990 levels by 2030 (41).

California's climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (CH_4, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the *2017 Scoping Plan* framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero-emission vehicles (ZEV) buses and trucks.
- LCFS, with an increased stringency (18% by 2030).
- Implementing SB 350, which expands the RPS to 50% RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing CH_4 and HCF emissions by 40% and anthropogenic black carbon emissions by 50% by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20% reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Note, however, that the *2017 Scoping Plan* acknowledges that:

> *"[a]chieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."*

In addition to the statewide strategies listed above, the *2017 Scoping Plan* also identifies local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 metric tons of CO_2e ($MTCO_2e$) or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidence-based bright-line numeric thresholds—consistent with the *2017 Scoping Plan* and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and MMs that avoid or minimize project emissions to the degree feasible; or, a performance-based metric using a CAP or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory (LBNL) and supported by CARB, California, under its existing and proposed GHG reduction policies, could achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that by 2030, emissions could range from 211 to 428 $MTCO_2e$ per year ($MTCO_2e$/yr), indicating that "even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40% below the 1990 level [of SB 32]." CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Although the research indicated that the emissions would not meet the State's 80% reduction goal by 2050, various combinations of policies could allow California's cumulative emissions to remain very low through 2050 (42) (43).

2022 CARB SCOPING PLAN

On December 15, 2022, CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) (44). The 2022 Scoping Plan builds on the 2017 Scoping Plan as well as the requirements set forth by AB 1279, which directs the state to become carbon neutral no later than 2045. To achieve this statutory objective, the 2022 Scoping Plan lays out how California can reduce GHG emissions by 85% below 1990 levels and achieve carbon neutrality by 2045. The Scoping Plan scenario to do this is to "deploy a broad portfolio of existing and emerging fossil fuel alternatives and clean technologies, and align with statutes, Executive Orders, Board direction, and direction from the governor." The 2022 Scoping Plan sets one of the most aggressive approaches to reach carbon neutrality in the world. Unlike the 2017 Scoping Plan, CARB no longer includes a numeric per capita threshold and instead advocates for compliance with a local GHG reduction strategy (CAP) consistent with CEQA Guidelines section 15183.5.

The key elements of the 2022 CARB Scoping Plan focus on transportation - the regulations that will impact this sector are adopted and enforced by CARB on vehicle manufacturers and outside the jurisdiction and control of local governments. As stated in the Plan's executive summary:

> "The major element of this unprecedented transformation is the aggressive reduction of fossil fuels wherever they are currently used in California, building on and accelerating carbon reduction programs that have been in place for a decade and a half. That means rapidly moving to zero-emission transportation; electrifying the cars, buses, trains, and trucks that now constitute California's single largest source of planet-warming pollution."

> "[A]pproval of this plan catalyzes a number of efforts, including the development of new regulations as well as amendments to strengthen regulations and programs already in place, not just at CARB but across state agencies."

Under the 2022 Scoping Plan, the State will lead efforts to meet the 2045 carbon neutrality goal through implementation of the following objectives:

- Reimagine roadway projects that increase VMT in a way that meets community needs and reduces the need to drive.
- Double local transit capacity and service frequencies by 2030.
- Complete the High-Speed Rail (HSR) System and other elements of the intercity rail network by 2040.
- Expand and complete planned networks of high-quality active transportation infrastructure.
- Increase availability and affordability of bikes, e-bikes, scooters, and other alternatives to light-duty vehicles, prioritizing needs of underserved communities.
- Shift revenue generation for transportation projects away from the gas tax into more durable sources by 2030.
- Authorize and implement roadway pricing strategies and reallocate revenues to equitably improve transit, bicycling, and other sustainable transportation choices.
- Prioritize addressing key transit bottlenecks and other infrastructure investments to improve transit operational efficiency over investments that increase VMT.
- Develop and implement a statewide transportation demand management (TDM) framework with VMT mitigation requirements for large employers and large developments.
- Prevent uncontrolled growth of autonomous vehicle (AV) VMT, particularly zero-passenger miles.
- Channel new mobility services towards pooled use models, transit complementarity, and lower VMT outcomes.
- Establish an integrated statewide system for trip planning, booking, payment, and user accounts that enables efficient and equitable multimodal systems.
- Provide financial support for low-income and disadvantaged Californians' use of transit and new mobility services.
- Expand universal design features for new mobility services.
- Accelerate infill development in existing transportation-efficient places and deploy strategic resources to create more transportation-efficient locations.
- Encourage alignment in land use, housing, transportation, and conservation planning in adopted regional plans (RTP/SCS and RHNA) and local plans (e.g., general plans, zoning, and local transportation plans).
- Accelerate production of affordable housing in forms and locations that reduce VMT and affirmatively further fair housing policy objectives.
- Reduce or eliminate parking requirements (and/or enact parking maximums, as appropriate) and promote redevelopment of excess parking, especially in infill locations.
- Preserve and protect existing affordable housing stock and protect existing residents and businesses from displacement and climate risk.

Included in the 2022 Scoping Plan is a set of Local Actions (Appendix D to the 2022 Scoping Plan) aimed at providing local jurisdictions with tools to reduce GHGs and assist the state in meeting the ambitious targets set forth in the 2022 Scoping Plan. Appendix D to the 2022 Scoping Plan includes a section on evaluating plan-level and project-level alignment with the State's Climate Goals in CEQA GHG analyses. In this section, CARB identifies several recommendations and strategies that should be considered for new development in order to determine consistency with the 2022 Scoping Plan. Notably, this section is focused on Residential and Mixed-Use Projects, in fact CARB states in Appendix D (page 4): "…focuses primarily on climate action plans (CAPs) and local authority over new residential development. It does not address other land use types (e.g., industrial) or air permitting."

Additionally on Page 21 in Appendix D, CARB states: "The recommendations outlined in this section apply only to residential and mixed-use development project types. California currently faces both a housing crisis and a climate crisis, which necessitates prioritizing recommendations for residential projects to address the housing crisis in a manner that simultaneously supports the State's GHG and regional air quality goals. CARB plans to continue to explore new approaches for other land use types in the future." As such, it would be inappropriate to apply the requirements contained in Appendix D of the 2022 Scoping Plan to any land use types other than residential or mixed-use residential development.

CAP-AND-TRADE PROGRAM

The *2017 Scoping Plan* identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program will help put California on the path to meet its goal of achieving a 40% reduction in GHG emissions from 1990 levels by 2030. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap will be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from regulated entities by more than 16% between 2013 and 2020, and by an additional 40% by 2030. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration.

Covered entities that emit more than 25,000 $MTCO_2e$/yr must comply with the Cap-and-Trade Program. Triggering of the 25,000 $MTCO_2e$/yr "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" for each

$MTCO_2e$ of GHG they emit. There also are requirements to surrender compliance instruments covering 30% of the prior year's compliance obligation by November of each year (45).

The Cap-and-Trade Program provides a firm cap, which provides the highest certainty of achieving the 2030 target. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in the *First Update to the Climate Change Scoping Plan*:

> *"The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative."* (46)

The Cap-and-Trade Program covers approximately 80% of California's GHG emissions (41). The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported.

3.4.2 EXECUTIVE ORDERS RELATED TO GHG EMISSIONS

California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the state and guide the actions of state agencies.

EXECUTIVE ORDER S-3-05

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

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

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

EXECUTIVE ORDER S-01-07 (LCFS)

Governor Schwarzenegger signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. CARB adopted the LCFS on April 23, 2009.

After a series of legal challenges, CARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. On November 16, 2015, the Office of Administrative Law (OAL) approved the Final Rulemaking Package. The new LCFS regulation became effective on January 1, 2016.

In 2018, CARB approved amendments to the regulation, which included strengthening the carbon intensity benchmarks through 2030 in compliance with the SB 32 GHG emissions reduction target for 2030. The amendments included crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector (47).

EXECUTIVE ORDER S-13-08

Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the Order, the *2009 California Climate Adaptation Strategy* (*CNRA 2009*) was adopted, which is the "…first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

EXECUTIVE ORDER B-30-15

On April 29, 2015, Governor Brown issued an executive order to establish a California GHG reduction target of 40% below 1990 levels by 2030. The Governor's executive order aligned California's GHG reduction targets with those of leading international governments ahead of the U.N. Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40% below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80% below 1990 levels by 2050 and directs CARB to update the *Climate Change Scoping Plan* to express the 2030 target in terms of $MMTCO_2e$. The Order also requires the state's climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable as to local governments and the private sector.

EXECUTIVE ORDER B-55-18 AND SB 100

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

3.4.3 CALIFORNIA REGULATIONS AND BUILDING CODES

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

TITLE 20 CCR SECTIONS 1601 ET SEQ. – APPLIANCE EFFICIENCY REGULATIONS

The Appliance Efficiency Regulations regulate the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. 23 categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles (RV) or other mobile equipment (CEC 2012).

TITLE 24 CCR PART 6 – CALIFORNIA ENERGY CODE

The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods.

TITLE 24 CCR PART 11 – CALIFORNIA GREEN BUILDING STANDARDS CODE

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

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

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023. The CEC anticipates that the 2022 energy code will provide $1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (48). The Project would be required to comply with the applicable standards in place at the time plan check submittals are made. These require, among other items (49):

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (5.106.5.3). Additionally, Table 5.106.5.4.1 specifies requirements for the installation of raceway conduit and panel power requirements for medium- and heavy-duty electric vehicle supply equipment for warehouses, grocery stores, and retail stores.
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reuse or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
  - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
  - Urinals. The effective flush volume of wall-mounted urinals shall not exceed

0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor- mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).

  - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
  - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).

- Outdoor potable water uses in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (GPD) (5.303.1.1 and 5.303.1.2).
- Outdoor water uses in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

CARB REFRIGERANT MANAGEMENT PROGRAM

CARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, CCR. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 lbs of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

TRACTOR-TRAILER GHG REGULATION

The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the HD tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors MY 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

PHASE I AND 2 HEAVY-DUTY VEHICLE GHG STANDARDS

In September 2011, CARB adopted a regulation for GHG emissions from HDTs and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the EPA rule for new trucks and engines nationally. Existing HD vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer GHG Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation. The EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements began with MY 2014 with stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include a) HD pickups and vans; b) vocational vehicles; and c) combination tractors. The EPA rule does not regulate trailers.

CARB worked jointly with the EPA and the NHTSA on the next phase of federal GHG emission standards for medium-duty trucks (MDT) and HDT vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later MY HDT vehicles, including trailers. The EPA and NHTSA have proposed to roll back GHG and fuel economy standards for cars and light-duty trucks, which suggests a similar rollback of Phase 2 standards for MDT and HDT vehicles may be pursued.

SB 97 AND THE CEQA GUIDELINES UPDATE

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research (OPR) shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the OPR pursuant to subdivision (a)."

In 2012, Public Resources Code Section 21083.05 was amended to state:

> *"The Office of Planning and Research and the Natural Resources Agency shall periodically update the guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption, to incorporate new information or criteria established by the State Air Resources Board pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code."*

On December 28, 2018, the Natural Resources Agency announced the OAL approved the amendments to the *CEQA Guidelines* for implementing CEQA. The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing *CEQA Guidelines* to reference climate change.

Section 15064.4 was added the *CEQA Guidelines* and states that in determining the significance of a project's GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. Additionally, a lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use (50).

3.5 REGIONAL

The project is within the South Coast Air Basin (SCAB), which is under the jurisdiction of the SCAQMD.

SCAQMD

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to a SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. SCAQMD acts as an expert commenting agency for impacts to air quality.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group identified several different options that are contained in the SCAQMD Draft Guidance Document – *Interim CEQA GHG Significance Threshold*, however no thresholds for CEQA land use development projects were adopted. The Working Group has not convened a meeting since November 2009 nor has the Working Group provided additional guidance since release of the interim guidance in 2008.

COUNTY OF RIVERSIDE CLIMATE ACTION PLAN

The County of Riverside adopted the Updated CAP on December 17, 2019. The CAP was designed under the premise that the County of Riverside, and the community it represents, is uniquely capable of addressing emissions associated with sources under Riverside County's jurisdiction, and that Riverside County's emission reduction efforts should coordinate with the state strategies of reducing emissions in order to accomplish these reductions in an efficient and cost-effective manner. The County of Riverside plans to reduce community-wide emissions to 3,576,598 $MTCO_2e$/yr by 2030.

The Project site is located in the jurisdiction of the March JPA within the County of Riverside. Although the County of Riverside does not have direct authority over the Project, consistency with the County's CAP provides an additional metric to determine if the Project's impacts are significant. This information is presented for informational purposes to illustrate how the Project has been designed to reduce GHG emissions.

In order to evaluate consistency with the CAP, the County of Riverside provided Screening Tables to aid in measuring the reduction of GHG emissions attributable to certain design and construction measures incorporated into development projects. The CAP contains a menu of measures potentially applicable to discretionary development that include energy conservation, water use reduction, increased residential density or mixed uses, transportation management and solid waste recycling. Individual sub-measures are assigned a point value within the overall screening table of GHG implementation measures. The point values are adjusted according to the intensity of action items with modest adoption/installation (those that reduce GHG emissions by modest amounts) worth the least number of points and greatly enhanced adoption/installation worth the most. Projects that garner at least 100 points (equivalent to an approximate 49% reduction in GHG emissions) are determined to be consistent with the reduction quantities anticipated in the County's GHG Technical Report, and consequently would be consistent with the CAP. As such, projects that achieve a total of 100 points or more are considered to have a less than significant individual and cumulative impact on GHG emissions.

MARCH JOINT POWERS AUTHORITY GENERAL PLAN

The Noise/Air Quality Element of the March JPA General Plan includes goals and policies that will be applied to the Project related to GHG emissions. The following goals and policies from the Noise/Air Quality Element apply to the Project:

- **Goal 3: Reduce air pollution through proper land use, transportation, and energy use planning.**
  - Policy 3.4: Encourage ride share programs.
- **Goal 6: Reduce emissions associated with vehicle/engine use.**
  - Policy 6.1: Reduce idling emissions by increasing traffic flow through synchronized traffic signals.
  - Policy 6.2: Work with Riverside Transit Agency (RTA) to develop a local transit system and facilitate connections of the local transit system with regional transit systems.
  - Policy 6.3: Encourage diversion of peak hour truck traffic, whenever feasible, to off-peak periods to reduce roadway congestion and associated emissions.
  - Policy 6.4: Work with Caltrans [California Department of Transportation] and traffic engineers to ensure that roadways and freeway on-ramps that are heavily utilized by trucks are designed to safely accommodate trucks.
  - Policy 6.5: Encourage trucks operating within March JPA Planning Area to maintain safety equipment and operate at safe speeds so as to reduce the potential for accidents which create congestion and related emissions.

  - Policy 6.6: Reduce vehicle emissions through improved parking design and management that provide for safe pedestrian access to and from various facilities.
  - Policy 6.8: Encourage the use of compressed natural gas, clean diesel and/or alternative fuels in engines.
- **Goal 7: Reduce emissions associated with energy consumption.**
  - Policy 7.1: Support the use of energy-efficient equipment and design in the March JPA Planning Area for facilities and infrastructure.
  - Policy 7.2: Encourage incorporation of energy conservation features in development.
  - Policy 7.3: Support passive solar design in new construction.
  - Policy 7.4: Support recycling programs which reduce emissions associated with manufacturing and waste disposal.
  - Policy 7.5: Support drought-resistant vegetation in landscaping areas to reduce energy needed to pump water.

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4 DISCUSSION ON ESTABLISHMENT OF SIGNIFICANCE THRESHOLDS

The criteria used to determine the significance of potential Project-related GHG impacts are as follows:

- Consistency with SB 32 through evaluating the Project's consistency and compliance with applicable statewide and local regulatory programs designed to reduce GHG emissions consistent with SB 32.
- Project consistency with the CAP using the CAP Screening Tables. Since the County of Riverside CAP was developed using AB 32/SB 32, this approach also supports the Project's consistency with AB 32/SB 32.
- Consistency with SB 375. Consistency with SB 375 was evaluated based on the growth assumptions of Southern California Association of Governments' (SCAG) 2016-2040 RTP/SCS and 2020-2045 RTP/SCS. With regard to individual developments, strategies, and policies set forth in the 2020-2045 RTP/SCS, the Project will discuss consistency with the following three categories:
    - Reduction of vehicle trips and vehicle miles traveled (VMT)
    - Increased use of alternative fuel vehicles
    - Improved energy efficiency

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5 PROJECT GREENHOUSE GAS EMISSIONS

5.1 INTRODUCTION

The Project's GHG emissions have been quantified for informational purposes.

5.2 METHODOLOGY

5.2.1 CALEEMOD

In May 2022, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (51). Accordingly, the latest version of CalEEMod has been used for this Project to determine GHG emissions. Output from the model runs for construction and operational activity is provided in Appendices 5.1 through 5.3. CalEEMod includes GHG emissions from the following source categories: construction, area, energy, mobile, on-site cargo handling equipment, water, and waste.

5.2.2 LIFE-CYCLE ANALYSIS NOT REQUIRED

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time (52). Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the Project development, infrastructure and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time, an LCA would be extremely speculative and thus has not been prepared.

Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood or documented, and would be challenging to mitigate (53). Additionally, the science to calculate life cycle emissions is not yet established or well defined; therefore, SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

5.3 CONSTRUCTION EMISSIONS

5.3.1 CONSTRUCTION ACTIVITIES

One-time emissions are those emissions that are not recurring over the life of the project. This includes emissions associated with construction. Project construction actvities would generate CO_2 and CH_4 emissions The report *Meridian D-1 Gateway Aviation Center Air Quality Impact Analysis Report* (AQIA) prepared by Urban Crossroads, Inc., contains detailed information regarding Project construction activities (54). As discussed in the AQIA, construction-related emissions are expected from the following construction activities:

- Site Preparation/Demolition
- Grading
- Building Construction
- Paving
- Architectural Coating

OFF-SITE UTILITY AND INFRASTRUCTURE IMPROVEMENTS

Construction emissions associated with off-site utility and infrastructure improvements may occur, however at this time, a specific schedule of off-site utility and infrastructure improvements is unknown. However, impacts associated with these proposed activities are not expected to exceed the emissions identified for Project-related construction activities. As such, no impacts beyond what has already been identified in this report are expected to occur.

5.3.2 CONSTRUCTION DURATION

Construction is expected to commence in June 2023 and will last through March 2024. The construction schedule utilized in the analysis, shown in Table 5-1, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[5] The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines*.

TABLE 5-1: CONSTRUCTION SCHEDULE

Construction Activity	Start Date	End Date	Days
Site Preparation/Demolition	06/01/2023	06/23/2023	17
Grading	07/01/2023	08/15/2023	32
Building Construction	08/01/2023	02/28/2024	152
Paving	12/01/2023	01/30/2024	43
Architectural Coating	02/15/2024	03/30/2024	32

5.3.3 CONSTRUCTION EQUIPMENT

Site specific construction fleet may vary due to specific project needs at the time of construction. A detailed summary of construction equipment assumptions by phase is provided at Table 5-2. Please refer to specific detailed modeling inputs/outputs contained in Appendix 5.1 of this GHGA.

[5] As shown in the CalEEMod User's Guide Version 2016.3.2, Section 4.3 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 5-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment	Amount	Hours Per Day	Horsepower	Load Factor
Site Preparation/ Demolition	Crawler Tractors	2	8	87	0.43
	Concrete/Industrial Saws	1	8	33	0.73
	Excavators	3	8	36	0.38
	Rubber Tired Dozers	6	8	367	0.40
Grading	Crawler Tractors	1	8	87	0.43
	Excavators	2	8	36	0.38
	Graders	3	8	148	0.41
	Rubber Tired Dozers	1	8	367	0.40
	Scrapers	2	8	423	0.48
Building Construction	Cranes	1	8	367	0.29
	Crawler Tractors	3	8	87	0.43
	Forklifts	3	8	82	0.20
	Generator Sets	1	8	14	0.74
	Welders	1	8	46	0.45
Paving	Pavers	2	8	81	0.42
	Paving Equipment	2	8	89	0.36
	Rollers	2	8	36	0.38
Architectural Coating	Air Compressors	1	8	37	0.48

5.3.4 GHG EMISSIONS FROM ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers, hauling, and vendors commuting to and from the site. The number of worker, hauling, and vendor trips are presented below in Table 5-3.

TABLE 5-3: CONSTRUCTION TRIP ASSUMPTIONS

Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Site Preparation/Demolition	46	3	24
Grading	23	5	391
Building Construction	75	20	0
Paving	15	0	0
Architectural Coating	15	4	0

5.3.5 CONSTRUCTION EMISSIONS SUMMARY

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year Project life then adding that number to the annual operational phase GHG emissions (55). As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 5-4.

TABLE 5-4: AMORTIZED ANNUAL CONSTRUCTION EMISSIONS

Year	Construction Equipment CO_2e Emissions (MT/yr)	On-Road Vehicle CO_2e Emissions (MT/yr)	Total
2023	349.40	285.76	635.16
2024	71.09	38.73	109.82
Total Annual Construction Emissions	420.49	324.49	744.98
Amortized Construction Emissions ($MTCO_2e$)			**24.83**

5.4 OPERATIONAL EMISSIONS

Operational activities associated with the Project will result in emissions of CO_2, CH_4, and N_2O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-Site Cargo Handling Equipment Emissions
- Aircraft Emissions
- Water Supply, Treatment, and Distribution
- Solid Waste
- Refrigerants

5.4.1 AREA SOURCE EMISSIONS

CalEEMod estimates area source emissions for the following sources: architectural coating, consumer products, and landscape maintenance equipment. Detailed operational model outputs are presented in Appendices 5.2 and 5.3.

ARCHITECTURAL COATING

Over a period of time the buildings that are part of this Project will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of Project maintenance. The emissions associated with architectural coatings were calculated using CalEEMod.

CONSUMER PRODUCTS

Consumer products include, but are not limited to, detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which, when released in the atmosphere, can react to form O_3 and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. It should be noted that as October 9, 2021, Governor Gavin Newsom signed AB 1346. The bill aims to ban the sale of new gasoline-powered equipment under 25 gross horsepower (known as small off-road engines [SOREs]) by 2024. For purposes of analysis, the emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

5.4.2 ENERGY SOURCE EMISSIONS

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas.

Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by Southern California Gas and electricity would be supplied to the Project by Southern California Edison (SCE).

COUNTY OF RIVERSIDE CAP

The CAP was designed under the premise that the County of Riverside, and the community it represents, is uniquely capable of addressing emissions associated with sources under the County's jurisdiction (including March JPA), and that the emission reduction efforts should coordinate with the state strategies of reducing emissions in order to accomplish these reductions in an efficient and cost-effective manner. The Project shall implement Screening Table Measures providing for a minimum 100 points per the County Screening Tables, as required by MM GHG-1 and MM AQ-1 through MM AQ-5.

5.4.3 MOBILE SOURCE EMISSIONS

Trip characteristics available from the *Meridian D-1 Gateway Aviation Center Traffic Analysis* (TA) were utilized in this analysis (56). The mobile-source emissions were calculated based on trip rates, trip lengths, and emission factors from EMFAC2021. Separate model runs were utilized in order to more accurately model emissions resulting from passenger car and truck operations. Detailed operational model outputs are presented in Appendices 5.2 through 5.3.

Per the TA, the Project is expected to generate a total of approximately 1,276 two-way vehicular trips per day (638 trips inbound and 638 trips outbound), including 276 two-way truck trips per day (138 truck trips inbound and 138 truck trips outbound) during non-peak operations and approximately 1,880 two-way vehicular trips per day (940 trips inbound and 940 trips outbound), including 408 two-way truck trips per day (204 truck trips inbound and 204 truck trips outbound) during peak operations (56).

VMT for transportation is calculated as an efficiency metric per the OPR Guidelines. The VMT analysis does not calculate total VMT associated with the Project. It is more appropriate for the analysis herein to rely on the trip rates from the TA and the associated trip lengths established by similar projects within the SCAQMD jurisdiction.

TRIP RATES

The trip generation rates used for this analysis are consistent with the rates provided in the TA which are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in the *Trip Generation Manual*, 10^{th} Edition, 2017 (57).

TRIP LENGTHS

For passenger car trips (Light-Duty-Auto vehicles [LDA], Light-Duty Trucks [LDT1][6], Light-Duty Trucks [LDT2][7], Medium-Duty Trucks [MDV], Other Buses [OBUS[8]], Urban Buses [UBUS[9]], Motorcycle [MCY], School Buses [SBUS], and Motor Homes [MH]), a one-way trip length of 18.85 miles was used based on the project's VMT analysis (58).

The average trip length for light heavy-duty trucks (LHDT), medium heavy-duty trucks (MHDT) and heavy heavy-duty trucks (HHDT) used for this analysis has been obtained from the South Coast Air Quality Management District's (SCAQMD) Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce emissions (WAIRE) Program (May 2021) (59). SCAQMD's Rule 2305 is based on a 15.3-mile trip length for LHDT, 14.2-mile trip length for MHDT and 39.9-mile trip length for HHDT. As such, a weighted average one-way trip length for trucks of 28.54 and 28.55 miles was utilized for Non-Peak and Peak, respectively.

[6] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[7] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

[8] OBUS vehicle classes refers to all other buses except school buses and urban buses.

[9] UBUS vehicle classes consist of natural gas buses, gasoline buses, and diesel buses.

PASSENGER CAR FLEET MIX

It is important to note that although the TA does not breakdown passenger cars by type, this analysis assumes that passenger cars include LDA, LDT1, LDT2, and MDV vehicle types for the following uses:

TABLE 5-5: PASSENGER CAR FLEET MIX

Land Use	% Vehicle Type				
	LDA	LDT1	LDT2	MDV	MCY
Non-Peak Season, 48 Weeks Peak Season, 4 Weeks	55.76%	4.52%	22.17%	15.30%	2.25%

Note: The Project-specific passenger car fleet mix used in this analysis is based on a proportional split utilizing the default CalEEMod percentages assigned to LDA, LDT1, LDT2, MDV, and MCY vehicle types.

TRUCK FLEET MIX

In order to be consistent with the TA, trucks are broken down by truck type. The trucks are comprised of LHDT1, LHDT2, MHDT, and HHDT. In order to account for emissions generated by trucks, the following fleet mix was utilized in this analysis:

TABLE 5-6: TRUCK FLEET MIX

Land Use	% Vehicle Type			
	LHDT1	LHDT2	MHDT	HHDT
Non-Peak Season, 48 Weeks	7.91%	2.23%	34.06%	55.80%
Peak Season, 4 Weeks	8.03%	2.27%	33.82%	55.82%

Note: Project-specific truck fleet mix is based on the number of trips generated by each truck type (LHDT1, LHDT2, MHDT, and HHDT) relative to the total number of truck trips.

5.4.4 ON-SITE CARGO HANDLING EQUIPMENT EMISSIONS

It is common for warehouse buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. For this particular Project, on-site modeled operational equipment includes up to one (1) 200 horsepower (hp), compressed natural gas or gasoline-powered tractors/loaders/backhoes operating at 4 hours a day[10] for 365 days of the year.

5.4.5 AIRCRAFT EMISSIONS

As previously stated, aircraft-related operational emissions are based on Project-specific data and modeled using the FAA's Aviation Environmental Design Tool (AEDT) version 3C.

[10] Based on Table II-3, Port and Rail Cargo Handling Equipment Demographics by Type, from CARB's Technology Assessment: Mobile Cargo Handling Equipment document, a single piece of equipment could operate up to 2 hours per day (Total Average Annual Activity divided by Total Number Pieces of Equipment). As such, the analysis conservatively assumes that the tractor/loader/backhoe would operate up to 4 hours per day.

Aircraft characteristics included 10,608 annual operations (5,304 arrivals and 5,304 departures) by the 767-300 as well as the CO_2e equivalency method of calculating GWP for CH_4, N_2O, and CO_2.

5.4.6 WATER SUPPLY, TREATMENT AND DISTRIBUTION

Indirect GHG emissions result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water as well as the sources of the water. CalEEMod default parameters were used to estimate GHG emissions associated with water supply, treatment and distribution for the Project scenario.

5.4.7 SOLID WASTE

GHG emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CAPCOA 2017). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle). CalEEMod based solid waste generation on a 2008 waste characterization study. Since the publication of the 2008 survey, statewide diversion has increased by approximately 25%. This additional reduction has been included in the modeling.

5.4.8 REFRIGERANTS

Air conditioning (A/C) and refrigeration equipment associated with the buildings are anticipated to generate GHG emissions. CalEEMod automatically generates a default A/C and refrigeration equipment inventory for each project land use subtype based on industry data from the USEPA (2016b). CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime and then derives average annual emissions from the lifetime estimate. Note that CalEEMod does not quantify emissions from the disposal of refrigeration and A/C equipment at the end of its lifetime. Per 17 CCR 95371, new facilities with refrigeration equipment containing more than 50 pounds of refrigerant are prohibited from utilizing refrigerants with a GWP of 150 or greater as of January 1, 2022. As such, it was conservatively assumed that refrigeration systems installed at the supermarket portion of the Project would utilize refrigerants with a GWP of 150. GHG emissions associated with refrigerants were calculated by CalEEMod.

5.4.9 GHG EMISSIONS

IMPACTS WITHOUT MITIGATION

The total annual GHG emissions associated with the Project activity is estimated to be 23,093.04 $MTCO_2$e/yr as summarized in Table 5-7. Emissions were calculated by determining the daily GHG emissions for peak and non-peak scenarios from the CalEEMod and AEDT outputs and multiplying the daily GHG emissions by 28 days (4 weeks) and 336 days (48 weeks) for peak and non-peak, respectively.

TABLE 5-7: TOTAL ANNUAL PROJECT GHG EMISSIONS– WITHOUT MITIGATION

Emission Source	CO_2e Emissions (MT/yr)
	Unmitigated
Annual construction-related emissions amortized over 30 years	24.83
Mobile Source	5,736.78
Area Source	3.67
Energy Source	332.09
Water	103.72
Waste	52.95
Refrigerant Leakage	30.42
Cargo Handling Equipment	285.36
Aircraft	16,523.22
Project Total CO_2e Emissions (All Sources)	**23,093.04**

IMPACTS WITH MITIGATION

The quantifiable emission reductions are presented below:

MM GHG-1

The Project will provide circuitry and capacity for installation of EV charging stations consistent with the County's CAP. Per information provided by the Project Applicant, the Project will develop 19 charging stations. Credit for GHG emissions reductions after implementation of MM GHG-1 is presented in Tables 5-8. Calculations for GHG emission reductions are provided in Appendix 5.4. It should be noted that emissions reductions from implementation of MM AQ-1 through MM AQ-6 are not readily quantifiable, therefore no numeric reduction in emissions has been taken.

After implementation of the quantified MMs, the annual GHG emissions associated with operations of the Project are estimated to be 22,923.04 $MTCO_2e$/yr as summarized in Table 5-8.

TABLE 5-8: TOTAL ANNUAL PROJECT GHG EMISSIONS– WITH MITIGATION

Emission Source	CO_2e Emissions (MT/yr)
	Unmitigated
Annual construction-related emissions amortized over 30 years	24.83
Mobile Source	5,736.78
Area Source	3.67
Energy Source	332.09
Water	103.72
Waste	52.95
Refrigerant Leakage	30.42
Cargo Handling Equipment	285.36
Aircraft	16,523.22
Reductions from EV Charging Stations	*-170*
Project Total CO_2e Emissions (All Sources)	**22,923.04**

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6 GHG EMISSIONS FINDINGS AND RECOMMENDATIONS

6.1 CONSISTENCY WITH SB 32/2017 SCOPING PLAN

In the absence of any adopted quantitative threshold, March JPA, as the lead agency, has determined that a project would not have a significant effect on the environment if a project is found to be consistent with the applicable regulatory plans and policies to reduce GHG emissions.

As previously stated, pursuant to 15064.4 of the *CEQA Guidelines*, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions (60). As such, the Project's consistency with SB 32 is discussed below.

The *2017 Scoping Plan* Update reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Table 6-1 summarizes the Project's consistency with the *2017 Scoping Plan*. As summarized, the Project will not conflict with any of the provisions of the Scoping Plan and in fact is consistent with and supports the following six categories.

TABLE 6-1: *2017 SCOPING PLAN* CONSISTENCY SUMMARY[11]

Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	Consistent. The Project would use energy from SCE. SCE has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. The Project would not interfere with or obstruct SCE energy source diversification efforts.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		Consistent. The Project would be designed and constructed to implement the energy efficiency measures for new commercial developments and would include several measures designed to reduce energy consumption. The Project would not interfere with or obstruct policies or strategies to establish annual targets for statewide energy efficiency savings and demand reduction.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned		Consistent. The Project would be designed and constructed to implement energy efficiency measures acting to reduce electricity consumption. The Project includes energy efficient lighting and fixtures that meet the current Title 24 Standards. Further, the Project would

[11] Measures can be found at the following link: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

Action	Responsible Parties	Consistency
utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		incorporate energy efficient boilers, heaters, and air conditioning systems.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty EVs by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2025 targets.
At least 4.2 million zero emission and plug-in hybrid light-duty EVs by 2030.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2030 targets.
Further increase GHG stringency on all light-duty vehicles beyond existing ACC regulations.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to further increase GHG stringency on all light-duty vehicles beyond existing ACC regulations.
Medium- and Heavy-Duty GHG Phase 2.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to implement Medium- and Heavy-Duty GHG Phase 2.
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts improve transit-source emissions.
Last Mile Delivery: New regulation that would result in the use of low NO_X or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5% of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10% in 2025 and remaining flat through 2030.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to improve last mile delivery emissions.

Action	Responsible Parties	Consistency
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		Consistent. This Project would not obstruct or interfere with implementation of SB 375 and would therefore not conflict with this measure.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).
By 2019, adjust performance measures used to select and design transportation facilities		
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g. via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor's Office of Business and Economic Development (GO-Biz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	Consistent. The Project would not obstruct or interfere with agency efforts to harmonize transportation facility project performance with emissions reductions and increase competitiveness of transit and active transportation modes.
By 2019, develop pricing policies to support low-GHG transportation (e.g. LEV III zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB	Consistent. The Project would not obstruct or interfere with agency efforts to develop pricing policies to support low-GHG transportation.
Implement California Sustainable Freight Action Plan		

Action	Responsible Parties	Consistency
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz	Consistent. This measure would apply to all trucks accessing the Project site, this may include existing trucks or new trucks that are part of the statewide goods movement sector. The Project would not obstruct or interfere with agency efforts to Improve freight system efficiency.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		Consistent. The Project would not obstruct or interfere with agency efforts to deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.
Adopt a LCFS with a Carbon Intensity reduction of 18%.	CARB	Consistent. When adopted, this measure would apply to all fuel purchased and used by the Project in the state. The Project would not obstruct or interfere with agency efforts to adopt a LCFS with a Carbon Intensity reduction of 18%.
Implement the Short-Lived Climate Pollutant Strategy (SLPS) by 2030		
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	Consistent. The Project would be required to comply with this measure and reduce any Project-source SLPS emissions accordingly. The Project would not obstruct or interfere with agency efforts to reduce SLPS emissions.
50% reduction in black carbon emissions below 2013 levels.		
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA SWRCB, Local Air Districts	Consistent. The Project would implement waste reduction and recycling measures consistent with State and County requirements. The Project would not obstruct or interfere with agency efforts to support organic waste landfill reduction goals in the SLCP and SB 1383.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	Consistent. The Project would be required to comply with any applicable Cap-and-Trade Program provisions. The Project would not obstruct or interfere with agency efforts to implement the post-2020 Cap-and-Trade Program.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink		

Action	Responsible Parties	Consistency
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	Consistent. The Project site is designated for aviation uses. The Project does not propose land conversion. The Project would not obstruct or interfere with agency efforts to protect land from conversion through conservation easements and other incentives.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity		Consistent. The Project site is vacant disturbed property and does not comprise an area that would effectively provide for carbon sequestration. The Project would not obstruct or interfere with agency efforts to increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments		Consistent. Where appropriate, Project designs will incorporate wood or wood products. The Project would not obstruct or interfere with agency efforts to encourage use of wood and agricultural products to increase the amount of carbon stored in the natural and built environments.
Establish scenario projections to serve as the foundation for the Implementation Plan		Consistent. The Project would not obstruct or interfere with agency efforts to establish scenario projections to serve as the foundation for the Implementation Plan.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	Consistent. CARB adopted the California 2030 Natural and Working Lands Climate Change Implementation Plan in 2019. As such, the Project would not obstruct or interfere with agency efforts to establish a carbon accounting framework for natural and working lands as described in the plan.
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection (CAL FIRE), CalEPA and Departments Within	Consistent. The Project would not obstruct or interfere with agency efforts to implement the Forest Carbon Plan.

Action	Responsible Parties	Consistency
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	Consistent. The Project would not obstruct or interfere with agency efforts to identify and expand funding and financing mechanisms to support GHG reductions across all sectors.

As shown above, the Project would not conflict with any of the *2017 Scoping Plan* elements as any regulations adopted would apply directly or indirectly to the Project. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40% below 1990 levels by 2030 (42).

6.1.3 2022 CARB Scoping Plan Consistency

The Project would not impede the State's progress towards carbon neutrality by 2045 under the 2022 Scoping Plan. The Project would be required to comply with applicable current and future regulatory requirements promulgated through the 2022 Scoping Plan. Some of the current transportation sector policies the Project will comply with (through vehicle manufacturer compliance) include: Advanced Clean Cars II, Advanced Clean Trucks, Advanced Clean Fleets, Zero Emission Forklifts, the Off-Road Zero-Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, In-use Off-Road Diesel-Fueled Fleets Regulation, Off-Road Zero-Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, Amendments to the In-use Off-Road Diesel-Fueled Fleets Regulation, carbon pricing through the Cap-and-Trade Program, and the Low Carbon Fuel Standard. Further, the Project will implement MM GHG-1 and MM AQ-1 through MM AQ-6 which are discreet mitigation measures aimed at reducing GHG emissions. As noted in the analysis herein, compliance with these mitigation measures will ensure that the Project would be consistent with the Riverside County CAP. As such, the Project would not be inconsistent with the 2022 Scoping Plan.

6.2 Consistency with County of Riverside CAP

Riverside County's CAP currently evaluates and quantifies reductions out to Year 2030. The CAP states that "Through 2050, Riverside County would continue implementation of the Screening Tables. During this time, the reduction measures implemented through the Screening Tables would continue to reduce GHG missions from new development. Additionally, it is assumed that the State measures would keep being updated and reinforced to further reduce emissions. With these assumptions, Riverside County's emissions would decrease to a level below the reduction target by 2050 (61)." Thus, compliance with the CAP would serve to meet and support the reduction targets established SB 32 and CARB *2017 Scoping Plan*.

The Project shall implement Screening Table Measures providing for a minimum 100 points per the County Screening Tables, as required by MM GHG-1 and MM AQ-1 through MM AQ-5. The Project would be consistent with the CAP's requirement to achieve at least 100 points and thus the Project is considered to have a less than significant individual and cumulatively impact on GHG emissions. The March JPA shall verify incorporation of the identified Screening Table Measures within the Project building plans and site designs prior to the issuance of building permit(s) and/or site plans (as applicable). The March JPA shall verify implementation of the identified Screening Table Measures prior to the issuance of Certificate(s) of Occupancy.

An example of how the Project will achieve a minimum of 100 Screening Table Points is provided at Table 6-2.

TABLE 6-2: CAP CONSISTENCY

Feature	Description	Points
EE10.A.1 Insulation	Enhanced Insulation (rigid wall insulation R-13, roof/attic R-38)	11
EE10.A.2 Windows	Greatly Enhanced Window Insulation (0.28 or less U-factor, 0.22 or less SHGC)	7
EE10-A.3 Cool Roofs	Modest Cool Roof (CRRC Rated 0.15 aged solar reflectance, 0.75 thermal emittance)	7
EE10.A.4 Air Infiltration	Blower Door HERS Verified Envelope Leakage of equivalent	6
EE10.B.1 Heating/Cooling Distribution System	Model Duct Insulation (R-6)	5
EE10.B.2 Space Heating/Cooling Equipment	Improved Efficiency HVAC (EER 14/78% AFUE or 8 HSPF)	4
EE10B.4 Water Heaters	High Efficiency Water Heater (0.72 Energy Factor)	10
EE10.B.5 Daylighting	All rooms daylighted	1
EE10.B.6 Artificial Lighting	High Efficiency Lights (50% of in-unit fixtures are high efficiency)	7
W2.E.2 Toilets	Water Efficient Toilets/Urinals (1.5 gpm) Waterless Urinals (note that commercial buildings having both waterless urinals and high efficiency toilets will have a combined point value of 6 points)	6
W2.E.3 Faucets	Water Efficient faucets (1.28 gpm)	2
T3.A.5 Commute Trip Reduction	Employer based Commute Trip Reduction (CTR). Incentive Based CTR (1–8 points) Mandatory CTR Programs (5–20 points)	1
T4.B.1 EV Recharging	Install EV charging stations in garages/parking areas	152[12]

[12] The Project is anticipated to include 19 EV charging stations. Per the Screening Tables, each station is 8 points.

Feature	Description	Points
	TOTAL POINTS EARNED BY COMMERCIAL/INDUSTRIAL PROJECT	***219***

Projects that garner at least 100 points through application of the Screening Table Measures are determined to be consistent with the reduction quantities anticipated in the County's GHG Technical Report, and consequently would be consistent with the CAP. The Project will implement Screening Table Measures that would provide a minimum of 100 Screening Table Points and would therefore be considered consistent with the CAP. The Project final plans and designs would conform to provisions of the CAP through implementation of the Screening Table Measures listed at Table 6-2. It should be noted that although the CAP requires on-site renewable energy production (including but not limited to solar photovoltaic panels), compliance with this requirement would not be feasible due to the Project site's vicinity to March ARB.

6.3 CONSISTENCY WITH SB 375 (SCAG RTP/SCS)

According to SCAG's *2020-2045 RTP/SCS*, employment within Riverside County in 2019 is approximately 812,800 jobs with an anticipated increase to approximately 1,063,800 jobs by 2045, a growth of approximately 251,000 jobs (62). The job created by the proposed Project represents a nominal percentage of the anticipated increase in jobs, and therefore, would not result in long-term operational employment growth that exceeds planned growth projections in the RTP/SCS or the AQMP, or result in employment growth that would substantially add to traffic congestion. Additionally, the Project would comply with the policies set forth in the *2020-2045 RTP/SCS* and the March JPA General Plan by reducing vehicle trips and VMT, increasing the use of alternative fuel vehicles, and improving energy efficiency.

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8 CERTIFICATIONS

The contents of this GHG study report represent an accurate depiction of the GHG impacts associated with the proposed Meridian D-1 Gateway Aviation Center Project. The information contained in this GHG report is based on the best available data at the time of preparation. If you have any questions, please contact me directly hqureshi@urbanxroads.com.

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EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 5.1:

CALEEMOD ANNUAL CONSTRUCTION EMISSIONS MODEL OUTPUTS

Meridian D-1 Gateway Aviation Center (Construction - Mitigated) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Meridian D-1 Gateway Aviation Center (Construction - Mitigated)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	10.0
Location	33.87742536966998, -117.24692914631906
County	Riverside-South Coast
City	Unincorporated
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5480
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	181	1000sqft	7.20	180,800	133,625	0.00	—	—
Parking Lot	122	Space	1.12	0.00	0.00	0.00	—	—

Other Asphalt Surfaces	2,077	1000sqft	47.7	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.6	9.70	91.5	80.2	0.18	4.42	7.51	11.9	4.07	3.05	7.13	—	24,428	24,428	0.79	2.14	32.5	25,118
Mit.	2.45	1.98	25.7	73.7	0.18	0.45	7.51	7.73	0.45	3.05	3.27	—	24,428	24,428	0.79	2.14	32.5	25,118
% Reduced	79%	80%	72%	8%	—	90%	—	35%	89%	—	54%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.05	56.5	27.7	32.6	0.05	1.56	1.38	2.91	1.44	0.33	1.76	—	6,161	6,161	0.25	0.18	0.19	6,219
Mit.	1.08	54.8	6.29	34.5	0.05	0.12	1.38	1.48	0.12	0.33	0.44	—	6,161	6,161	0.25	0.18	0.19	6,219
% Reduced	73%	3%	77%	-6%	—	92%	—	49%	92%	—	75%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.04	5.25	16.1	14.8	0.03	0.78	1.24	2.02	0.72	0.39	1.11	—	3,762	3,762	0.13	0.23	1.94	3,836

Mit.	0.47	5.01	3.94	14.8	0.03	0.07	1.24	1.31	0.07	0.39	0.46	—	3,762	3,762	0.13	0.23	1.94	3,836
% Reduced	77%	4%	76%	> -0.5%	—	91%	—	35%	90%	—	58%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.37	0.96	2.94	2.70	0.01	0.14	0.23	0.37	0.13	0.07	0.20	—	623	623	0.02	0.04	0.32	635
Mit.	0.09	0.91	0.72	2.71	0.01	0.01	0.23	0.24	0.01	0.07	0.08	—	623	623	0.02	0.04	0.32	635
% Reduced	77%	4%	76%	> -0.5%	—	91%	—	35%	90%	—	58%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	11.6	9.70	91.5	80.2	0.18	4.42	7.51	11.9	4.07	3.05	7.13	—	24,428	24,428	0.79	2.14	32.5	25,118
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.05	6.39	27.7	32.6	0.05	1.56	1.35	2.91	1.44	0.32	1.76	—	6,161	6,161	0.25	0.17	0.19	6,219
2024	3.83	56.5	26.1	31.9	0.05	1.42	1.38	2.77	1.31	0.33	1.63	—	6,129	6,129	0.25	0.18	0.19	6,187
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	2.04	1.87	16.1	14.8	0.03	0.78	1.24	2.02	0.72	0.39	1.11	—	3,762	3,762	0.13	0.23	1.94	3,836
2024	0.41	5.25	2.70	3.32	< 0.005	0.15	0.16	0.31	0.13	0.04	0.17	—	656	656	0.03	0.02	0.37	664
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.37	0.34	2.94	2.70	0.01	0.14	0.23	0.37	0.13	0.07	0.20	—	623	623	0.02	0.04	0.32	635
2024	0.07	0.96	0.49	0.61	< 0.005	0.03	0.03	0.06	0.02	0.01	0.03	—	109	109	< 0.005	< 0.005	0.06	110

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	2.45	1.98	25.7	73.7	0.18	0.45	7.51	7.73	0.45	3.05	3.27	—	24,428	24,428	0.79	2.14	32.5	25,118
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.08	3.98	6.29	34.5	0.05	0.12	1.35	1.47	0.12	0.32	0.44	—	6,161	6,161	0.25	0.17	0.19	6,219
2024	1.06	54.8	6.21	33.9	0.05	0.12	1.38	1.48	0.12	0.33	0.44	—	6,129	6,129	0.25	0.18	0.19	6,187
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.47	0.59	3.94	14.8	0.03	0.07	1.24	1.31	0.07	0.39	0.46	—	3,762	3,762	0.13	0.23	1.94	3,836
2024	0.12	5.01	0.70	3.50	< 0.005	0.01	0.16	0.18	0.01	0.04	0.05	—	656	656	0.03	0.02	0.37	664
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.09	0.11	0.72	2.71	0.01	0.01	0.23	0.24	0.01	0.07	0.08	—	623	623	0.02	0.04	0.32	635
2024	0.02	0.91	0.13	0.64	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	109	109	< 0.005	< 0.005	0.06	110

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

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

Off-Road Equipment	5.62	4.72	45.1	37.8	0.05	2.21	—	2.21	2.03	—	2.03	—	5,501	5,501	0.22	0.04	—	5,520
Demolition	—	—	—	—	—	—	1.32	1.32	—	0.20	0.20	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.22	2.10	1.76	< 0.005	0.10	—	0.10	0.09	—	0.09	—	256	256	0.01	< 0.005	—	257
Demolition	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.38	0.32	< 0.005	0.02	—	0.02	0.02	—	0.02	—	42.4	42.4	< 0.005	< 0.005	—	42.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.12	2.08	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	338	338	0.01	0.01	1.45	343
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.02	1.00	0.33	< 0.005	0.01	0.05	0.06	0.01	0.02	0.03	—	725	725	0.02	0.12	1.47	761

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	14.6	14.6	< 0.005	< 0.005	0.03	14.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	33.8	33.8	< 0.005	0.01	0.03	35.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.42	2.42	< 0.005	< 0.005	< 0.005	2.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.59	5.59	< 0.005	< 0.005	< 0.005	5.87

3.2. Demolition (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.56	5.52	29.8	0.05	0.10	—	0.10	0.10	—	0.10	—	5,501	5,501	0.22	0.04	—	5,520
Demolition	—	—	—	—	—	—	1.32	1.32	—	0.20	0.20	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.26	1.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	256	256	0.01	< 0.005	—	257
Demolition	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	42.4	42.4	< 0.005	< 0.005	—	42.6
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.12	2.08	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	338	338	0.01	0.01	1.45	343
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.02	1.00	0.33	< 0.005	0.01	0.05	0.06	0.01	0.02	0.03	—	725	725	0.02	0.12	1.47	761
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	14.6	14.6	< 0.005	< 0.005	0.03	14.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	33.8	33.8	< 0.005	0.01	0.03	35.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.42	2.42	< 0.005	< 0.005	< 0.005	2.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.59	5.59	< 0.005	< 0.005	< 0.005	5.87

3.3. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.62	4.72	45.1	37.8	0.05	2.21	—	2.21	2.03	—	2.03	—	5,501	5,501	0.22	0.04	—	5,520
Dust From Material Movement	—	—	—	—	—	—	5.39	5.39	—	2.66	2.66	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.22	2.10	1.76	< 0.005	0.10	—	0.10	0.09	—	0.09	—	256	256	0.01	< 0.005	—	257
Dust From Material Movement	—	—	—	—	—	—	0.25	0.25	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.38	0.32	< 0.005	0.02	—	0.02	0.02	—	0.02	—	42.4	42.4	< 0.005	< 0.005	—	42.6

Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.12	2.08	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	338	338	0.01	0.01	1.45	343
Vendor	< 0.005	< 0.005	0.11	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	94.2	94.2	< 0.005	0.01	0.26	98.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	14.6	14.6	< 0.005	< 0.005	0.03	14.8
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.39	4.39	< 0.005	< 0.005	0.01	4.59
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.42	2.42	< 0.005	< 0.005	< 0.005	2.46
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.76
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2023) - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.56	5.52	29.8	0.05	0.10	—	0.10	0.10	—	0.10	—	5,501	5,501	0.22	0.04	—	5,520
Dust From Material Movement	—	—	—	—	—	—	5.39	5.39	—	2.66	2.66	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.26	1.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	256	256	0.01	< 0.005	—	257
Dust From Material Movement	—	—	—	—	—	—	0.25	0.25	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	42.4	42.4	< 0.005	< 0.005	—	42.6
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.12	2.08	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	338	338	0.01	0.01	1.45	343
Vendor	< 0.005	< 0.005	0.11	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	94.2	94.2	< 0.005	0.01	0.26	98.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	14.6	14.6	< 0.005	< 0.005	0.03	14.8
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.39	4.39	< 0.005	< 0.005	0.01	4.59
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.42	2.42	< 0.005	< 0.005	< 0.005	2.46
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.76
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.55	4.66	45.4	37.4	0.07	2.13	—	2.13	1.96	—	1.96	—	7,501	7,501	0.30	0.06	—	7,527

Dust From Material Movement	—	—	—	—	—	—	2.85	2.85	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	0.41	3.98	3.28	0.01	0.19	—	0.19	0.17	—	0.17	—	658	658	0.03	0.01	—	660
Dust From Material Movement	—	—	—	—	—	—	0.25	0.25	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.73	0.60	< 0.005	0.03	—	0.03	0.03	—	0.03	—	109	109	< 0.005	< 0.005	—	109
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.12	2.08	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	338	338	0.01	0.01	1.45	343
Vendor	0.01	< 0.005	0.18	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	157	157	< 0.005	0.02	0.44	165
Hauling	0.73	0.34	16.4	5.40	0.08	0.21	0.79	1.00	0.21	0.29	0.50	—	11,896	11,896	0.30	1.89	24.1	12,491

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	27.6	27.6	< 0.005	< 0.005	0.05	28.0
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.8	13.8	< 0.005	< 0.005	0.02	14.4
Hauling	0.06	0.03	1.50	0.48	0.01	0.02	0.07	0.09	0.02	0.03	0.04	—	1,043	1,043	0.03	0.17	0.91	1,094
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	4.56	4.56	< 0.005	< 0.005	0.01	4.63
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.28	2.28	< 0.005	< 0.005	< 0.005	2.39
Hauling	0.01	0.01	0.27	0.09	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	173	173	< 0.005	0.03	0.15	181

3.6. Grading (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.72	4.87	41.7	0.07	0.14	—	0.14	0.14	—	0.14	—	7,501	7,501	0.30	0.06	—	7,527
Dust From Material Movement	—	—	—	—	—	—	2.85	2.85	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.43	3.65	0.01	0.01	—	0.01	0.01	—	0.01	—	658	658	0.03	0.01	—	660
Dust From Material Movement	—	—	—	—	—	—	0.25	0.25	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.67	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	109	109	< 0.005	< 0.005	—	109
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.12	2.08	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	338	338	0.01	0.01	1.45	343
Vendor	0.01	< 0.005	0.18	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	157	157	< 0.005	0.02	0.44	165
Hauling	0.73	0.34	16.4	5.40	0.08	0.21	0.79	1.00	0.21	0.29	0.50	—	11,896	11,896	0.30	1.89	24.1	12,491
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	27.6	27.6	< 0.005	< 0.005	0.05	28.0
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.8	13.8	< 0.005	< 0.005	0.02	14.4

Hauling	0.06	0.03	1.50	0.48	0.01	0.02	0.07	0.09	0.02	0.03	0.04	—	1,043	1,043	0.03	0.17	0.91	1,094
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	4.56	4.56	< 0.005	< 0.005	0.01	4.63
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.28	2.28	< 0.005	< 0.005	< 0.005	2.39
Hauling	0.01	0.01	0.27	0.09	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	173	173	< 0.005	0.03	0.15	181

3.7. Building Construction (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.47	2.07	18.3	16.2	0.03	1.14	—	1.14	1.05	—	1.05	—	2,806	2,806	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.47	2.07	18.3	16.2	0.03	1.14	—	1.14	1.05	—	1.05	—	2,806	2,806	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.47	4.84	0.01	0.34	—	0.34	0.31	—	0.31	—	840	840	0.03	0.01	—	843
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	0.11	1.00	0.88	< 0.005	0.06	—	0.06	0.06	—	0.06	—	139	139	0.01	< 0.005	—	140
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.40	0.40	6.80	0.00	0.00	0.06	0.06	0.00	0.00	0.00	—	1,102	1,102	0.05	0.04	4.72	1,119
Vendor	0.03	0.02	0.73	0.23	< 0.005	0.01	0.04	0.04	0.01	0.01	0.02	—	628	628	0.01	0.09	1.75	658
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.42	0.38	0.46	5.16	0.00	0.00	0.06	0.06	0.00	0.00	0.00	—	1,012	1,012	0.05	0.04	0.12	1,025
Vendor	0.03	0.02	0.77	0.23	< 0.005	0.01	0.04	0.04	0.01	0.01	0.02	—	629	629	0.01	0.09	0.05	657
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.14	1.62	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	307	307	0.01	0.01	0.61	311
Vendor	0.01	0.01	0.23	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	188	188	< 0.005	0.03	0.23	197
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.30	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	50.8	50.8	< 0.005	< 0.005	0.10	51.5
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	31.1	31.1	< 0.005	< 0.005	0.04	32.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2023) - Mitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.37	3.04	17.4	0.03	0.08	—	0.08	0.08	—	0.08	—	2,806	2,806	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.37	3.04	17.4	0.03	0.08	—	0.08	0.08	—	0.08	—	2,806	2,806	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.11	0.91	5.22	0.01	0.03	—	0.03	0.02	—	0.02	—	840	840	0.03	0.01	—	843
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.95	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	139	139	0.01	< 0.005	—	140
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.40	0.40	6.80	0.00	0.00	0.06	0.06	0.00	0.00	0.00	—	1,102	1,102	0.05	0.04	4.72	1,119
Vendor	0.03	0.02	0.73	0.23	< 0.005	0.01	0.04	0.04	0.01	0.01	0.02	—	628	628	0.01	0.09	1.75	658
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.42	0.38	0.46	5.16	0.00	0.00	0.06	0.06	0.00	0.00	0.00	—	1,012	1,012	0.05	0.04	0.12	1,025
Vendor	0.03	0.02	0.77	0.23	< 0.005	0.01	0.04	0.04	0.01	0.01	0.02	—	629	629	0.01	0.09	0.05	657
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.14	1.62	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	307	307	0.01	0.01	0.61	311
Vendor	0.01	0.01	0.23	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	188	188	< 0.005	0.03	0.23	197
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.30	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	50.8	50.8	< 0.005	< 0.005	0.10	51.5
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	31.1	31.1	< 0.005	< 0.005	0.04	32.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.31	1.93	17.1	16.0	0.03	1.03	—	1.03	0.94	—	0.94	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.22	1.97	1.85	< 0.005	0.12	—	0.12	0.11	—	0.11	—	324	324	0.01	< 0.005	—	325
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.34	< 0.005	0.02	—	0.02	0.02	—	0.02	—	53.6	53.6	< 0.005	< 0.005	—	53.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.36	0.43	4.73	0.00	0.00	0.06	0.06	0.00	0.00	0.00	—	992	992	0.05	0.04	0.11	1,004
Vendor	0.03	0.02	0.74	0.22	< 0.005	0.01	0.04	0.04	0.01	0.01	0.02	—	621	621	0.01	0.09	0.05	650
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.58	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	116	116	0.01	< 0.005	0.21	118
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	71.7	71.7	< 0.005	0.01	0.09	75.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	19.2	19.2	< 0.005	< 0.005	0.04	19.5
Vendor	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.9	11.9	< 0.005	< 0.005	0.01	12.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.37	3.03	17.4	0.03	0.08	—	0.08	0.08	—	0.08	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.35	2.01	< 0.005	0.01	—	0.01	0.01	—	0.01	—	324	324	0.01	< 0.005	—	325
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	53.6	53.6	< 0.005	< 0.005	—	53.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.40	0.36	0.43	4.73	0.00	0.00	0.06	0.06	0.00	0.00	0.00	—	992	992	0.05	0.04	0.11	1,004
Vendor	0.03	0.02	0.74	0.22	< 0.005	0.01	0.04	0.04	0.01	0.01	0.02	—	621	621	0.01	0.09	0.05	650
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.58	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	116	116	0.01	< 0.005	0.21	118
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	71.7	71.7	< 0.005	0.01	0.09	75.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	19.2	19.2	< 0.005	< 0.005	0.04	19.5
Vendor	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.9	11.9	< 0.005	< 0.005	0.01	12.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04	0.88	8.06	10.0	0.01	0.41	—	0.41	0.38	—	0.38	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	2.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.05	0.49	0.61	< 0.005	0.03	—	0.03	0.02	—	0.02	—	91.7	91.7	< 0.005	< 0.005	—	92.0
Paving	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.2	15.2	< 0.005	< 0.005	—	15.2
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.09	1.03	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	202	202	0.01	0.01	0.02	205
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	12.4	12.4	< 0.005	< 0.005	0.02	12.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.06	2.06	< 0.005	< 0.005	< 0.005	2.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	2.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	91.7	91.7	< 0.005	< 0.005	—	92.0
Paving	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.2	15.2	< 0.005	< 0.005	—	15.2
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.09	1.03	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	202	202	0.01	0.01	0.02	205
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	12.4	12.4	< 0.005	< 0.005	0.02	12.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.06	2.06	< 0.005	< 0.005	< 0.005	2.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	2.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.46	0.59	< 0.005	0.02	—	0.02	0.02	—	0.02	—	88.7	88.7	< 0.005	< 0.005	—	89.0
Paving	—	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.7	14.7	< 0.005	< 0.005	—	14.7
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	0.95	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	198	198	0.01	0.01	0.02	201
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	11.8	11.8	< 0.005	< 0.005	0.02	12.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.95	1.95	< 0.005	< 0.005	< 0.005	1.98

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Paving (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	2.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.11	0.62	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	88.7	88.7	< 0.005	< 0.005	—	89.0
Paving	—	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.7	14.7	< 0.005	< 0.005	—	14.7
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	0.95	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	198	198	0.01	0.01	0.02	201
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	11.8	11.8	< 0.005	< 0.005	0.02	12.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.95	1.95	< 0.005	< 0.005	< 0.005	1.98
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2024) - Unmitigated

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

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

Off-Road Equipment	0.22	0.18	1.21	1.53	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	53.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.11	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.7
Architectural Coatings	—	4.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.58	2.58	< 0.005	< 0.005	—	2.59
Architectural Coatings	—	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	0.95	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	198	198	0.01	0.01	0.02	201
Vendor	0.01	< 0.005	0.15	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	124	124	< 0.005	0.02	0.01	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.6	17.6	< 0.005	< 0.005	0.03	17.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.9	10.9	< 0.005	< 0.005	0.01	11.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.92	2.92	< 0.005	< 0.005	0.01	2.96
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.80	1.80	< 0.005	< 0.005	< 0.005	1.89
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Architectural Coating (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.86	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	53.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.7

Architect Coatings	—	4.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.58	2.58	< 0.005	< 0.005	—	2.59
Architectural Coatings	—	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	0.95	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	198	198	0.01	0.01	0.02	201
Vendor	0.01	< 0.005	0.15	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	124	124	< 0.005	0.02	0.01	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.6	17.6	< 0.005	< 0.005	0.03	17.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.9	10.9	< 0.005	< 0.005	0.01	11.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.92	2.92	< 0.005	< 0.005	0.01	2.96
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.80	1.80	< 0.005	< 0.005	< 0.005	1.89
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

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

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

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	6/1/2023	6/23/2023	5.00	17.0	—
Site Preparation	Site Preparation	6/1/2023	6/23/2023	5.00	17.0	—
Grading	Grading	7/1/2023	8/15/2023	5.00	32.0	—
Building Construction	Building Construction	8/1/2023	2/28/2024	5.00	152	—
Paving	Paving	12/1/2023	1/30/2024	5.00	43.0	—
Architectural Coating	Architectural Coating	2/15/2024	3/30/2024	5.00	32.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Grading	Graders	Diesel	Average	3.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Demolition	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Site Preparation	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Site Preparation	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Site Preparation	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Grading	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Building Construction	Crawler Tractors	Diesel	Average	3.00	8.00	87.0	0.43

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Grading	Graders	Diesel	Tier 4 Final	3.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29
Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	8.00	37.0	0.48
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Crawler Tractors	Diesel	Tier 4 Final	2.00	8.00	87.0	0.43
Site Preparation	Crawler Tractors	Diesel	Tier 4 Final	2.00	8.00	87.0	0.43
Site Preparation	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Site Preparation	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Grading	Crawler Tractors	Diesel	Tier 4 Final	1.00	8.00	87.0	0.43
Building Construction	Crawler Tractors	Diesel	Tier 4 Final	3.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	23.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	3.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	23.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	5.00	10.2	HHDT,MHDT
Grading	Hauling	391	8.30	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	75.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	20.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	15.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	4.00	10.2	HHDT,MHDT

Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT
Demolition	—	—	—	—
Demolition	Worker	23.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	0.00	10.2	HHDT,MHDT
Demolition	Hauling	23.8	8.30	HHDT
Demolition	Onsite truck	0.00	0.00	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	23.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	3.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	23.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	5.00	10.2	HHDT,MHDT
Grading	Hauling	391	8.30	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	75.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	20.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2

Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	15.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	4.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT
Demolition	—	—	—	—
Demolition	Worker	23.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	0.00	10.2	HHDT,MHDT
Demolition	Hauling	23.8	8.30	HHDT
Demolition	Onsite truck	0.00	0.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	366,880	122,293	127,574

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)

Demolition	0.00	0.00	0.00	1,619	—
Site Preparation	0.00	0.00	340	0.00	—
Grading	100,000	0.00	640	0.00	—
Paving	0.00	0.00	0.00	0.00	48.8

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Unrefrigerated Warehouse-No Rail	0.00	0%
Parking Lot	1.12	100%
Other Asphalt Surfaces	47.7	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	28.0	annual days of extreme heat
Extreme Precipitation	2.05	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	7.76	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

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

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

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

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

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

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	97.6
AQ-PM	59.8
AQ-DPM	40.3

Drinking Water	70.7
Lead Risk Housing	53.6
Pesticides	13.2
Toxic Releases	64.0
Traffic	82.0
Effect Indicators	—
CleanUp Sites	82.5
Groundwater	97.9
Haz Waste Facilities/Generators	87.9
Impaired Water Bodies	0.00
Solid Waste	84.9
Sensitive Population	—
Asthma	71.5
Cardio-vascular	86.8
Low Birth Weights	97.0
Socioeconomic Factor Indicators	—
Education	82.5
Housing	59.7
Linguistic	82.8
Poverty	89.3
Unemployment	81.0

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	8.353650712

Employed	6.480174516
Education	—
Bachelor's or higher	30.14243552
High school enrollment	100
Preschool enrollment	10.97138458
Transportation	—
Auto Access	10.29128705
Active commuting	87.46310792
Social	—
2-parent households	6.223533941
Voting	6.13370974
Neighborhood	—
Alcohol availability	44.43731554
Park access	43.37225715
Retail density	18.60644168
Supermarket access	67.43231105
Tree canopy	3.977928911
Housing	—
Homeownership	8.353650712
Housing habitability	10.4452714
Low-inc homeowner severe housing cost burden	45.06608495
Low-inc renter severe housing cost burden	46.23379956
Uncrowded housing	21.62196843
Health Outcomes	—
Insured adults	12.4085718
Arthritis	51.7
Asthma ER Admissions	24.0

High Blood Pressure	30.0
Cancer (excluding skin)	80.0
Asthma	9.8
Coronary Heart Disease	57.7
Chronic Obstructive Pulmonary Disease	27.0
Diagnosed Diabetes	31.9
Life Expectancy at Birth	7.4
Cognitively Disabled	15.9
Physically Disabled	19.5
Heart Attack ER Admissions	20.1
Mental Health Not Good	14.9
Chronic Kidney Disease	35.4
Obesity	8.3
Pedestrian Injuries	77.2
Physical Health Not Good	20.0
Stroke	29.9
Health Risk Behaviors	—
Binge Drinking	63.5
Current Smoker	15.5
No Leisure Time for Physical Activity	16.7
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	18.1
Elderly	24.3
English Speaking	44.9
Foreign-born	53.3

Outdoor Workers	18.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	73.9
Traffic Density	76.9
Traffic Access	61.5
Other Indices	—
Hardship	89.9
Other Decision Support	—
2016 Voting	11.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	98.0
Healthy Places Index Score for Project Location (b)	5.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification

Land Use	Total Project area is 56.03 acres
Construction: Construction Phases	Construction anticipated to end in 2024
Construction: Off-Road Equipment	Equipment based on construction of similar industrial project needs
Construction: Dust From Material Movement	Analysis conservatively assumes that up to 20 acres can be disturbed per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, Building Construction, and Architectural Coating
Construction: Architectural Coatings	Rule 1113

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APPENDIX 5.2:

CALEEMOD NON-PEAK ANNUAL OPERATIONAL EMISSIONS MODEL OUTPUTS

Meridian D-1 Gateway Aviation Center (Non-Peak Operations) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Meridian D-1 Gateway Aviation Center (Non-Peak Operations)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	10.0
Location	33.87742536966998, -117.24692914631906
County	Riverside-South Coast
City	Unincorporated
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5480
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	181	1000sqft	7.22	180,800	133,625	0.00	—	—
Parking Lot	122	Space	1.12	0.00	0.00	0.00	—	—

Other Asphalt Surfaces	2,077	1000sqft	47.7	0.00	0.00	0.00	—	—
User Defined Industrial	181	User Defined Unit	0.00	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.08	10.9	25.0	73.8	0.32	0.45	7.53	7.98	0.44	1.46	1.90	172	35,592	35,763	18.3	3.60	293	37,586
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.47	9.41	26.2	54.5	0.31	0.44	7.53	7.97	0.43	1.46	1.88	172	34,577	34,749	18.3	3.62	187	36,473
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.41	10.3	26.6	61.9	0.32	0.45	7.53	7.98	0.44	1.46	1.89	172	34,739	34,911	18.3	3.63	231	36,681
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.17	1.87	4.86	11.3	0.06	0.08	1.37	1.46	0.08	0.27	0.35	28.4	5,752	5,780	3.03	0.60	38.3	6,073

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.58	4.75	24.1	65.1	0.32	0.37	7.53	7.90	0.36	1.46	1.81	—	33,273	33,273	0.73	3.39	109	34,409
Area	1.40	6.11	0.07	7.86	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.3	32.3	< 0.005	< 0.005	—	32.5
Energy	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	2,003	2,003	0.18	0.01	—	2,011
Water	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Waste	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184
Total	7.08	10.9	25.0	73.8	0.32	0.45	7.53	7.98	0.44	1.46	1.90	172	35,592	35,763	18.3	3.60	293	37,586
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.36	4.54	25.3	53.7	0.31	0.37	7.53	7.90	0.36	1.46	1.81	—	32,292	32,292	0.75	3.41	2.82	33,329
Area	—	4.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	2,003	2,003	0.18	0.01	—	2,011
Water	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Waste	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184
Total	5.47	9.41	26.2	54.5	0.31	0.44	7.53	7.97	0.43	1.46	1.88	172	34,577	34,749	18.3	3.62	187	36,473
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.35	4.52	25.6	55.7	0.31	0.37	7.53	7.90	0.36	1.46	1.81	—	32,431	32,431	0.75	3.42	47.0	33,515
Area	0.96	5.70	0.05	5.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.1	22.1	< 0.005	< 0.005	—	22.2
Energy	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	2,003	2,003	0.18	0.01	—	2,011
Water	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Waste	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184

Total	6.41	10.3	26.6	61.9	0.32	0.45	7.53	7.98	0.44	1.46	1.89	172	34,739	34,911	18.3	3.63	231	36,681
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.98	0.82	4.68	10.2	0.06	0.07	1.37	1.44	0.06	0.27	0.33	—	5,369	5,369	0.12	0.57	7.78	5,549
Area	0.17	1.04	0.01	0.98	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.67	3.67	< 0.005	< 0.005	—	3.68
Energy	0.02	0.01	0.17	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	332	332	0.03	< 0.005	—	333
Water	—	—	—	—	—	—	—	—	—	—	—	13.3	46.8	60.1	1.36	0.03	—	104
Waste	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.52	0.00	—	53.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.5	30.5
Total	1.17	1.87	4.86	11.3	0.06	0.08	1.37	1.46	0.08	0.27	0.35	28.4	5,752	5,780	3.03	0.60	38.3	6,073

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	4.75	4.28	2.96	59.4	0.13	0.06	0.58	0.63	0.05	0.17	0.22	—	12,700	12,700	0.41	0.30	50.5	12,849
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

User Defined Industrial	0.83	0.47	21.1	5.68	0.19	0.32	1.37	1.69	0.30	0.44	0.75	—	20,573	20,573	0.32	3.09	58.4	21,561
Total	5.58	4.75	24.1	65.1	0.32	0.37	1.95	2.32	0.36	0.61	0.97	—	33,273	33,273	0.73	3.39	109	34,409
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	4.55	4.09	3.29	48.0	0.12	0.06	0.58	0.63	0.05	0.17	0.22	—	11,712	11,712	0.43	0.32	1.31	11,819
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	0.81	0.45	22.0	5.74	0.19	0.32	1.37	1.69	0.31	0.44	0.75	—	20,579	20,579	0.32	3.09	1.52	21,510
Total	5.36	4.54	25.3	53.7	0.31	0.37	1.95	2.32	0.36	0.61	0.97	—	32,292	32,292	0.75	3.41	2.82	33,329
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.83	0.74	0.62	9.13	0.02	0.01	0.11	0.12	0.01	0.03	0.04	—	1,963	1,963	0.07	0.05	3.61	1,984
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	0.15	0.08	4.06	1.04	0.04	0.06	0.25	0.31	0.06	0.08	0.14	—	3,407	3,407	0.05	0.51	4.18	3,565
Total	0.98	0.82	4.68	10.2	0.06	0.07	0.36	0.42	0.06	0.11	0.18	—	5,369	5,369	0.12	0.57	7.78	5,549

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	795	795	0.08	0.01	—	799
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	102	102	0.01	< 0.005	—	103
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	897	897	0.08	0.01	—	902
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	795	795	0.08	0.01	—	799
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	102	102	0.01	< 0.005	—	103

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	897	897	0.08	0.01	—	902
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	132	132	0.01	< 0.005	—	132
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	16.9	16.9	< 0.005	< 0.005	—	17.0
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	148	148	0.01	< 0.005	—	149

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	1,106	1,106	0.10	< 0.005	—	1,109

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	1,106	1,106	0.10	< 0.005	—	1,109
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	1,106	1,106	0.10	< 0.005	—	1,109
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	1,106	1,106	0.10	< 0.005	—	1,109
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.02	0.01	0.17	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	183	183	0.02	< 0.005	—	184
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.17	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	183	183	0.02	< 0.005	—	184

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	4.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.40	1.29	0.07	7.86	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.3	32.3	< 0.005	< 0.005	—	32.5
Total	1.40	6.11	0.07	7.86	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.3	32.3	< 0.005	< 0.005	—	32.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	4.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	4.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.17	0.16	0.01	0.98	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.67	3.67	< 0.005	< 0.005	—	3.68
Total	0.17	1.04	0.01	0.98	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.67	3.67	< 0.005	< 0.005	—	3.68

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	13.3	46.8	60.1	1.36	0.03	—	104
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	13.3	46.8	60.1	1.36	0.03	—	104

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.52	0.00	—	53.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.52	0.00	—	53.1

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.5	30.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.5	30.5

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	1,000	1,000	1,000	365,002	17,024	17,024	17,024	6,213,607
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	276	276	276	100,737	7,051	7,051	7,051	2,573,775

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	366,880	122,293	127,574

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	832,105	349	0.0330	0.0040	3,451,866
Parking Lot	106,872	349	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	349	0.0330	0.0040	0.00
User Defined Industrial	0.00	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	41,810,000	2,118,719
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
User Defined Industrial	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	170	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
User Defined Industrial	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Unrefrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	28.0	annual days of extreme heat
Extreme Precipitation	2.05	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	7.76	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

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

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	97.6
AQ-PM	59.8
AQ-DPM	40.3
Drinking Water	70.7
Lead Risk Housing	53.6
Pesticides	13.2
Toxic Releases	64.0
Traffic	82.0
Effect Indicators	—
CleanUp Sites	82.5
Groundwater	97.9
Haz Waste Facilities/Generators	87.9

Impaired Water Bodies	0.00
Solid Waste	84.9
Sensitive Population	—
Asthma	71.5
Cardio-vascular	86.8
Low Birth Weights	97.0
Socioeconomic Factor Indicators	—
Education	82.5
Housing	59.7
Linguistic	82.8
Poverty	89.3
Unemployment	81.0

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	8.353650712
Employed	6.480174516
Education	—
Bachelor's or higher	30.14243552
High school enrollment	100
Preschool enrollment	10.97138458
Transportation	—
Auto Access	10.29128705
Active commuting	87.46310792
Social	—

2-parent households	6.223533941
Voting	6.13370974
Neighborhood	—
Alcohol availability	44.43731554
Park access	43.37225715
Retail density	18.60644168
Supermarket access	67.43231105
Tree canopy	3.977928911
Housing	—
Homeownership	8.353650712
Housing habitability	10.4452714
Low-inc homeowner severe housing cost burden	45.06608495
Low-inc renter severe housing cost burden	46.23379956
Uncrowded housing	21.62196843
Health Outcomes	—
Insured adults	12.4085718
Arthritis	51.7
Asthma ER Admissions	24.0
High Blood Pressure	30.0
Cancer (excluding skin)	80.0
Asthma	9.8
Coronary Heart Disease	57.7
Chronic Obstructive Pulmonary Disease	27.0
Diagnosed Diabetes	31.9
Life Expectancy at Birth	7.4
Cognitively Disabled	15.9
Physically Disabled	19.5

Heart Attack ER Admissions	20.1
Mental Health Not Good	14.9
Chronic Kidney Disease	35.4
Obesity	8.3
Pedestrian Injuries	77.2
Physical Health Not Good	20.0
Stroke	29.9
Health Risk Behaviors	—
Binge Drinking	63.5
Current Smoker	15.5
No Leisure Time for Physical Activity	16.7
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	18.1
Elderly	24.3
English Speaking	44.9
Foreign-born	53.3
Outdoor Workers	18.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	73.9
Traffic Density	76.9
Traffic Access	61.5
Other Indices	—
Hardship	89.9
Other Decision Support	—
2016 Voting	11.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	98.0
Healthy Places Index Score for Project Location (b)	5.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification
Land Use	Total Project area is 56.03 acres
Operations: Vehicle Data	Trip characteristics based on information provided in the Traffic analysis
Operations: Fleet Mix	Passenger Car Mix estimated based on the CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, & MCY). Truck Mix based on information in the Traffic analysis
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater.

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APPENDIX 5.3:

CALEEMOD PEAK ANNUAL OPERATIONAL EMISSIONS MODEL OUTPUTS

Meridian D-1 Gateway Aviation Center (Peak Operations) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Meridian D-1 Gateway Aviation Center (Peak Operations)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	10.0
Location	33.87742536966998, -117.24692914631906
County	Riverside-South Coast
City	Unincorporated
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5480
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	181	1000sqft	7.22	180,800	133,625	0.00	—	—
Parking Lot	122	Space	1.12	0.00	0.00	0.00	—	—

Other Asphalt Surfaces	2,077	1000sqft	47.7	0.00	0.00	0.00	—	—
User Defined Industrial	181	User Defined Unit	0.00	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.72	13.2	36.6	105	0.48	0.63	11.1	11.7	0.61	2.15	2.76	172	51,456	51,628	18.7	5.22	345	53,994
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.01	11.6	38.4	79.9	0.46	0.62	11.1	11.7	0.60	2.15	2.75	172	49,978	50,150	18.7	5.25	188	52,371
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.94	12.4	38.9	88.2	0.46	0.63	11.1	11.7	0.61	2.15	2.76	172	50,206	50,378	18.7	5.26	254	52,667
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.63	2.26	7.10	16.1	0.08	0.12	2.03	2.14	0.11	0.39	0.50	28.4	8,312	8,341	3.09	0.87	42.0	8,720

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.22	7.00	35.6	95.9	0.47	0.55	11.1	11.7	0.53	2.15	2.68	—	49,138	49,138	1.08	5.01	161	50,817
Area	1.40	6.11	0.07	7.86	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.3	32.3	< 0.005	< 0.005	—	32.5
Energy	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	2,003	2,003	0.18	0.01	—	2,011
Water	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Waste	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184
Total	9.72	13.2	36.6	105	0.48	0.63	11.1	11.7	0.61	2.15	2.76	172	51,456	51,628	18.7	5.22	345	53,994
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.91	6.68	37.5	79.1	0.45	0.55	11.1	11.7	0.53	2.15	2.68	—	47,693	47,693	1.10	5.04	4.17	49,227
Area	—	4.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	2,003	2,003	0.18	0.01	—	2,011
Water	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Waste	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184
Total	8.01	11.6	38.4	79.9	0.46	0.62	11.1	11.7	0.60	2.15	2.75	172	49,978	50,150	18.7	5.25	188	52,371
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.88	6.66	37.9	82.1	0.46	0.55	11.1	11.7	0.53	2.15	2.68	—	47,898	47,898	1.10	5.05	69.4	49,501
Area	0.96	5.70	0.05	5.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.1	22.1	< 0.005	< 0.005	—	22.2
Energy	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	2,003	2,003	0.18	0.01	—	2,011
Water	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Waste	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184

Total	8.94	12.4	38.9	88.2	0.46	0.63	11.1	11.7	0.61	2.15	2.76	172	50,206	50,378	18.7	5.26	254	52,667
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.44	1.21	6.92	15.0	0.08	0.10	2.03	2.13	0.10	0.39	0.49	—	7,930	7,930	0.18	0.84	11.5	8,195
Area	0.17	1.04	0.01	0.98	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.67	3.67	< 0.005	< 0.005	—	3.68
Energy	0.02	0.01	0.17	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	332	332	0.03	< 0.005	—	333
Water	—	—	—	—	—	—	—	—	—	—	—	13.3	46.8	60.1	1.36	0.03	—	104
Waste	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.52	0.00	—	53.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.5	30.5
Total	1.63	2.26	7.10	16.1	0.08	0.12	2.03	2.14	0.11	0.39	0.50	28.4	8,312	8,341	3.09	0.87	42.0	8,720

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	6.99	6.31	4.36	87.5	0.18	0.08	0.85	0.93	0.08	0.25	0.33	—	18,695	18,695	0.61	0.43	74.3	18,913
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

User Defined Industrial	1.24	0.69	31.2	8.43	0.28	0.47	2.03	2.50	0.45	0.65	1.10	—	30,443	30,443	0.48	4.57	86.5	31,904
Total	8.22	7.00	35.6	95.9	0.47	0.55	2.88	3.43	0.53	0.91	1.43	—	49,138	49,138	1.08	5.01	161	50,817
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	6.70	6.02	4.84	70.6	0.17	0.08	0.85	0.93	0.08	0.25	0.33	—	17,241	17,241	0.63	0.47	1.93	17,397
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	1.21	0.67	32.6	8.51	0.28	0.47	2.03	2.50	0.45	0.65	1.11	—	30,452	30,452	0.47	4.58	2.24	31,830
Total	7.91	6.68	37.5	79.1	0.45	0.55	2.88	3.43	0.53	0.91	1.43	—	47,693	47,693	1.10	5.04	4.17	49,227
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	1.22	1.09	0.91	13.4	0.03	0.01	0.16	0.17	0.01	0.05	0.06	—	2,889	2,889	0.10	0.08	5.31	2,921
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	0.22	0.12	6.01	1.54	0.05	0.09	0.37	0.46	0.08	0.12	0.20	—	5,041	5,041	0.08	0.76	6.19	5,275
Total	1.44	1.21	6.92	15.0	0.08	0.10	0.53	0.63	0.10	0.17	0.26	—	7,930	7,930	0.18	0.84	11.5	8,195

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	795	795	0.08	0.01	—	799
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	102	102	0.01	< 0.005	—	103
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	897	897	0.08	0.01	—	902
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	795	795	0.08	0.01	—	799
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	102	102	0.01	< 0.005	—	103

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	897	897	0.08	0.01	—	902
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	132	132	0.01	< 0.005	—	132
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	16.9	16.9	< 0.005	< 0.005	—	17.0
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	148	148	0.01	< 0.005	—	149

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	1,106	1,106	0.10	< 0.005	—	1,109

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	1,106	1,106	0.10	< 0.005	—	1,109
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	1,106	1,106	0.10	< 0.005	—	1,109
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.10	0.05	0.93	0.78	0.01	0.07	—	0.07	0.07	—	0.07	—	1,106	1,106	0.10	< 0.005	—	1,109
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.02	0.01	0.17	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	183	183	0.02	< 0.005	—	184
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.17	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	183	183	0.02	< 0.005	—	184

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	4.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.40	1.29	0.07	7.86	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.3	32.3	< 0.005	< 0.005	—	32.5
Total	1.40	6.11	0.07	7.86	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.3	32.3	< 0.005	< 0.005	—	32.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	4.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	4.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.17	0.16	0.01	0.98	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.67	3.67	< 0.005	< 0.005	—	3.68
Total	0.17	1.04	0.01	0.98	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.67	3.67	< 0.005	< 0.005	—	3.68

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	80.1	283	363	8.24	0.20	—	628
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	13.3	46.8	60.1	1.36	0.03	—	104
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	13.3	46.8	60.1	1.36	0.03	—	104

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	91.6	0.00	91.6	9.15	0.00	—	320
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.52	0.00	—	53.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.52	0.00	—	53.1

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184	184
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.5	30.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.5	30.5

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	1,472	1,472	1,472	537,280	25,059	25,059	25,059	9,146,394
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	408	408	408	149,023	10,439	10,439	10,439	3,810,060

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	366,880	122,293	127,574

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO_2 and CH_4 and N_2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	832,105	349	0.0330	0.0040	3,451,866
Parking Lot	106,872	349	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	349	0.0330	0.0040	0.00
User Defined Industrial	0.00	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	41,810,000	2,118,719
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
User Defined Industrial	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	170	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
User Defined Industrial	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Unrefrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	28.0	annual days of extreme heat
Extreme Precipitation	2.05	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	7.76	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

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

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	97.6
AQ-PM	59.8
AQ-DPM	40.3
Drinking Water	70.7
Lead Risk Housing	53.6
Pesticides	13.2
Toxic Releases	64.0
Traffic	82.0
Effect Indicators	—
CleanUp Sites	82.5
Groundwater	97.9
Haz Waste Facilities/Generators	87.9

Impaired Water Bodies	0.00
Solid Waste	84.9
Sensitive Population	—
Asthma	71.5
Cardio-vascular	86.8
Low Birth Weights	97.0
Socioeconomic Factor Indicators	—
Education	82.5
Housing	59.7
Linguistic	82.8
Poverty	89.3
Unemployment	81.0

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	8.353650712
Employed	6.480174516
Education	—
Bachelor's or higher	30.14243552
High school enrollment	100
Preschool enrollment	10.97138458
Transportation	—
Auto Access	10.29128705
Active commuting	87.46310792
Social	—

2-parent households	6.223533941
Voting	6.13370974
Neighborhood	—
Alcohol availability	44.43731554
Park access	43.37225715
Retail density	18.60644168
Supermarket access	67.43231105
Tree canopy	3.977928911
Housing	—
Homeownership	8.353650712
Housing habitability	10.4452714
Low-inc homeowner severe housing cost burden	45.06608495
Low-inc renter severe housing cost burden	46.23379956
Uncrowded housing	21.62196843
Health Outcomes	—
Insured adults	12.4085718
Arthritis	51.7
Asthma ER Admissions	24.0
High Blood Pressure	30.0
Cancer (excluding skin)	80.0
Asthma	9.8
Coronary Heart Disease	57.7
Chronic Obstructive Pulmonary Disease	27.0
Diagnosed Diabetes	31.9
Life Expectancy at Birth	7.4
Cognitively Disabled	15.9
Physically Disabled	19.5

Heart Attack ER Admissions	20.1
Mental Health Not Good	14.9
Chronic Kidney Disease	35.4
Obesity	8.3
Pedestrian Injuries	77.2
Physical Health Not Good	20.0
Stroke	29.9
Health Risk Behaviors	—
Binge Drinking	63.5
Current Smoker	15.5
No Leisure Time for Physical Activity	16.7
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	18.1
Elderly	24.3
English Speaking	44.9
Foreign-born	53.3
Outdoor Workers	18.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	73.9
Traffic Density	76.9
Traffic Access	61.5
Other Indices	—
Hardship	89.9
Other Decision Support	—
2016 Voting	11.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	98.0
Healthy Places Index Score for Project Location (b)	5.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification
Land Use	Total Project area is 56.03 acres
Operations: Vehicle Data	Trip characteristics based on information provided in the Traffic analysis
Operations: Fleet Mix	Passenger Car Mix estimated based on the CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, & MCY). Truck Mix based on information in the Traffic analysis
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater.

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APPENDIX 5.4:

EV CHARGING STATIONS REDUCTIONS CALCULATIONS

GHG Emissions Reduction from Electric Vehicle Charging Stations

Parameters		Unit
Estimating GHG Emissions Reductions from Replacement of Gasoline Vheicles with Electric Vehicles		
SCE Electricity Emission Factor[1]	0.25	MT CO_2e/MWH
Fuel Economy of Electric Vehicle[2]	0.25	kWh/mi
Gasoline/Diesel CO_2e Emission while Running[3]	305	g/mi
Annual Energy Delivery per Parking Spot[4]	7056	kWh/charging station/yr
Annual VMT Reduction per Parking Spot[5]	28224	mi/charging station/yr
Number of Parking Spots Provided Chargers[6]	**19**	charging stations
Annual VMT Reduction from All Stations (Based on Charge)	536256	mi/yr
Estimated Benefit from Installing On-Site Electric Vehicle Charging Stations		
GHG Emissions of Gasoline/Diesel Vehicle[7]	180	$MTCO_2$e/yr
GHG Emissions of Electric Vehicle[8]	11	
Annual GHG Emissions Reductions	**170**	**$MTCO_2$e/yr**

[1] CO_2e weighted intensity factor for SCE accounts for CO_2 and CH_4 emissions rates under the 33% RPS for 2020.

[2] US Department of Energy, 2013. Benefits and Considerations of Electricity as a Vehicle Fuel. Available at: https://afdc.energy.gov/fuels/electricity_benefits.html

[3] Running exhaust emission rates for CO_2, CH_4, and N_2O were estimated using EMFAC2021 for light-duty gasoline and diesel-powered vehicles in Riverside County, aggregated for all models and speeds, averaged over all seasons in calendar year 2024. Emission rate was converted to CO_2e using the 4th Assessment Report Global Warming Potentials. Available at: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory

[4] Annual Energy Delivery and VMT reduction based on an average monthly energy delivery of 588 kWh per charging station for conventional Level 2 chargers, as estimated by the California Energy Commission. Available at: https://ww2.energy.ca.gov/2018publications/CEC-500-2018-020/CEC-500-2018-020.pdf

[5] Annual VMT reduction calculated as the annual energy delivery divided by the fuel economy of an electric vehicle.

[6] Number of charging stations based on project commitment.

[7] GHG emissions calculated using annual VMT reduction at all stations and CO_2e emission rate.

[8] GHG emissions calculated using annual VMT reduction at all stations , fuel economy of electric vehicles, along with SCE electricity CO_2e emission factor.

Conversion Factors	
lb/MT	2,204.620
MT/gram	0.000
MWh to kWh	0.001
lbs CO2e/MWH delivered	478.470
Gram to Pounds	0.002

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APPENDIX 5.5:

AIRCRAFT-RELATED OPERATIONAL EMISSIONS

Mead & Hunt

April 27, 2022 *Sent via email*
(*revised 4/23/24)*

Haseeb Qureshi
Associate Principal
Urban Crossroads, Inc.
1133 Camelback St. #8329
Newport Beach, CA 92658
Email: hqureshi@urbanxroads.com

Subject: March Air Reserve Base - Commercial Air Cargo Noise and Air Quality Study – Final Emissions

Dear Mr. Haseeb Qureshi:

This letter contains the results of Amendment #3 (March 15, 2022) of our Agreement for the above-noted Project.

PROJECT BACKGROUND

Lewis Development (Project Applicant) is underway with development plans for an air cargo hangar and transfer terminal (Proposed Project) at the March Air Reserve Base (March ARB) in Riverside County, California. Mead & Hunt, Inc. (Mead & Hunt) was tasked with reviewing the Proposed Project's operations from a noise and air quality perspective and providing results to Urban Crossroads for incorporation into the environmental documents for the Proposed Project.

This work effort includes noise and emissions analysis for the following four scenarios:

1) Proposed Flight Operations Scenario – Reflects 10,608 annual operations by 767-300 aircraft. Operations in this scenario will occur during day, evening, and night[1] as indicated by the Project Applicant.
    a. Once constructed, the Proposed Project is anticipated to average 17 flights per day, six (6) days a week (non-peak). Generally, arrivals would occur in the early morning hours and departures would occur in the late evening hours.
    b. During the peak season (i.e., late November through late December), the Proposed Project is anticipated to average 22 flights per day, six (6) days per week, over a four (4) week period; however, the maximum annual aircraft operations for the Proposed Project would not exceed the currently available civilian air cargo operations capacity under the Joint Use Agreement. Aircraft operations would occur between 7:00 a.m. and 11:00 p.m. (approximately five percent of Proposed Project's proposed aircraft operations would occur between 10:00 p.m. and 11:00 p.m.).
2) No Night Operations Scenario – Reflects 10,608 annual operations by 767-300 aircraft. Similar to option 1, operations in this scenario will occur during day and evening hours; however, no nighttime operations will occur as indicated by the Project Applicant.

[1] Day, evening, and night are distinct time periods for noise modeling purposes. They are defined as: Day between the hours of 7:00 am – 7:00 pm, evening between the hours of 7:00 pm – 10:00 pm, and night between 10:00 pm – 7:00 am. Evening operations incur a 5 dB penalty and night operations incur a 10 dB penalty.

3) Reduced Flight Operations Scenario – Reflects 9,548 annual operations by 767-300 aircraft. Operations in this scenario will occur during day, evening, and night as indicated by the Project Applicant.
4) General Aviation Fleet Scenario – This scenario represents a theoretical change in the project away from air cargo and a focus on general aviation accommodation. The scenario assumes the same number of operations as the Proposed Flight Operations Scenario (10,608) but assumes they would be conducted by a mix of general aviation aircraft. A representative fleet was used from the John Wayne Airport General Aviation Improvement Program EIR (2018) to reflect likely users. **Table 4** at the end of this document details the operations by aircraft type assumed for the General Aviation Scenario.

NOISE CONTOURS

Noise contours were developed to reflect the four scenarios described above in the "Project Background" section. The results of these contours are depicted in **Exhibits 1-7**.

Comparison to Prior Noise Studies

In 2018, March ARB undertook the preparation of an Air Installation Compatible Use Zone (AICUZ) planning document. In the 2018 AICUZ, noise contours were prepared that reflected 21,000 aircraft operations associated with the Joint Powers Authority (JPA). These 21,000 operations represent the maximum allowable civilian operations at the March ARB under a joint-use agreement.

The 2018 March ARB AICUZ does not contain a detailed fleet-mix breakdown of the 21,000 aircraft operations by type of aircraft. However, the March JPA created an internal spreadsheet for the 2018 AICUZ noise contour effort that detailed the fleet mix breakdown of the 21,000 JPA civilian operations. A copy of that spreadsheet was provided to Mead & Hunt, and it was used as the basis of comparison between the Proposed Project and the 2018 AICUZ noise contour assumptions.

The spreadsheet that the JPA created and provided shows 12,600 annual operations conducted by a variety of civilian cargo aircraft. A summary table (**Table 1**) is included to the right.

Table 1: Summary Table

2018 AICUZ Noise Contours Civilian Cargo Aircraft Fleet Mix	
Aircraft Type	**Annual Operations**
747-400	2,496
MD-11F	520
L10-11	520
757	3,250
767	3,510
DC-8	130
A300	520
A320	650
Total	**12,600**

Note that the civilian cargo aircraft operations were spread across a much broader range of aircraft type, some of which are much louder aircraft than the 767-300.

As the Proposed Project would accommodate up to 10,608 annual cargo operations, less than the 12,600 in the 2018 AICUZ noise contour, it is appropriate to compare the Proposed Project's noise impacts to the 2018 AICUZ noise contours, specifically the noise contours associated with the Civilian Cargo Aircraft Fleet Mix (**Table 1**).

Exhibit 7 illustrates, for comparison purposes, the noise contours associated with the Proposed Flight Operations scenario as well as the noise contours associated with the Civilian Cargo Aircraft Fleet Mix.

RESIDENTIAL ANALYSIS

Analysis was conducted to determine the noise impacts on several sensitive receptors as provided by Urban Crossroads. The results of the analysis are provided in **Table 2** below. The receptor points and readings are also shown on **Exhibits 1-7**.

Table 2: Sensitive Receptor Analysis

Location / Receptor	AICUZ Air Cargo Scenario	Preferred Flight Ops	Reduced Flight Ops	No Night Flights	GA* Scenario
1341 W. Oleander Street	60.01	55.01	54.25	53.46	37.81
R1	49.01	47.6	46.85	46.06	27.68
R2	49.05	45.7	44.95	44.17	26.93
R3	51.43	46.81	46.06	45.29	28.84
R4	53.04	47.83	47.07	46.29	30.74
Note: all values are dB CNEL *GA - General Aviation					

EMISSIONS INVENTORY DETAILS

An operational emissions inventory was conducted for the four scenarios described on Page 1 (proposed flight operations, no night operations, reduced flight operations and the general aviation fleet scenario). The four scenarios' specific operations by aircraft type were incorporated into the Federal Aviation Administration's noise and emissions model: Aviation Environmental Design Tool (AEDT). AEDT uses aircraft and engine specific emissions factors to calculate total emissions associated with each operation entered into the model. The AEDT model for each of the four scenarios assumes that the total operations for each scenario are equally divided between arrivals and departures. The AEDT has preset power / thrust settings with resulting emissions factors assigned to each modeled aircraft.

The AEDT model runs used default Ground Service Equipment (GSE) and Auxiliary Power Unit (APU) utilization rates associated with the various aircraft types. No custom modeling / inputs were used.

Summaries of the Criteria Pollutants, Organic Gasses, and Hazardous Air Pollutants for all four scenarios have been documented in the Microsoft Excel files attached (*Attachments A and B*) to this correspondence. The emissions summaries include breakdowns of emissions by phase of flight (e.g., climb, descend, etc.) and by external source (e.g., GSE and APU).

Modeling Assumptions

Proposed Flight Operations Scenario

The Proposed Flight Operations Scenario reflects 10,608 annual operations by 767-300 cargo aircraft. The Proposed Project is anticipated to average 17 flights per day, six (6) days a week (non-peak). Generally, arrivals would occur in the early morning hours and departures would occur in the late evening hours.

During the peak season (i.e., late November through late December), the Proposed Project is anticipated to average 22 flights per day, six (6) days per week, over a four (4) week period; however, the maximum annual aircraft operations for the Proposed Project would not exceed the currently available civilian air cargo operations capacity under the Joint Use Agreement.

Time-of-day

Table 3 below contains the time-of-day assumptions used for all three cargo aircraft scenarios:

Table 3: Time of Day Assumptions

Proposed Flight Operations (Non-Peak) - Arrivals			
Day	Evening	Night	Total
14	3	0	17
82%	18%	0%	100%
Proposed Flight Operations (Non-Peak) - Departures			
Day	Evening	Night	Total
3	12	2	17
18%	71%	12%	100%
Proposed Flight Operations (Peak) - Arrivals			
Day	Evening	Night	Total
15	7	0	22
68%	32%	0%	100%
Proposed Flight Operations (Peak) - Departures			
Day	Evening	Night	Total
7	13	2	22
32%	59%	9%	100%

No Night Operations (Non-Peak) - Arrivals			
Day	Evening	Night	Total
14	3	0	17
82%	18%	0%	100%
No Night Operations (Non-Peak) - Departures			
Day	Evening	Night	Total
5	12	0	17
29%	71%	0%	100%
No Night Operations (Peak) - Arrivals			
Day	Evening	Night	Total
15	7	0	22
68%	32%	0%	100%
No Night Operations (Peak) - Departures			
Day	Evening	Night	Total
9	13	0	22
41%	59%	0%	100%

Reduced Flight Operations (Non-Peak) - Arrivals			
Day	Evening	Night	Total
13	2	0	15
87%	13%	0%	100%
Reduced Flight Operations (Non-Peak) - Departures			
Day	Evening	Night	Total
2	12	1	15
13%	80%	7%	100%
Reduced Flight Operations (Peak) - Arrivals			
Day	Evening	Night	Total
14	6	0	20
70%	30%	0%	100%
Reduced Flight Operations (Peak) - Departures			
Day	Evening	Night	Total
6	12	2	20
30%	60%	10%	100%

Runway End

Emissions results are independent of runway usage, nonetheless the model assumed Runway 14 is used ten percent of the time and Runway 32 is used ninety percent of the time.

Flight tracks

Emissions generated from flight tracks are independent of flight track usage. All aircraft were modeled on “straight-in” and “straight-out” flight tracks.

GSE and APU

The AEDT has pre-populated default equipment utilization information for GSE and APU for all aircraft models that use GSE and APUs. This modeling effort incorporated the default equipment utilization which includes:

- Thirteen-minutes of APU runtime per operation
- Diesel aircraft tug
- Diesel catering truck
- Diesel cargo loader
- Diesel hydrant fueling truck
- Diesel Lavatory truck
- Diesel service truck

No Night Operations Scenario

The No Night Operations Scenario reflects 10,608 annual operations by 767-300 cargo aircraft. All assumptions are the same as the Preferred Flight Operations scenario with the exception of time-of-day. **Table 3** above includes time-of day information for the No Night Operations Scenario

Reduced Flight Operations Scenario

The Reduced Flight Operations Scenario reflects 9,548 annual operations by 767-300 aircraft. Operations in this scenario will occur during day, evening, and night as indicated by the Project Applicant. All assumptions are the same as the Preferred Flight Operations scenario with the exception of time-of-day. **Table 3** above includes time-of day information for the Reduced Flight Operations Scenario.

General Aviation Flight Operations Scenario

In order to model the potential impacts of a General Aviation (GA) Project scenario rather than an air cargo Project scenario, a representative GA fleet was prepared. The GA fleet scenario depicted below in **Table 4** was derived from an existing GA fleet at John Wayne Airport (SNA). This SNA fleet is a typical and representative fleet of what could potentially occur under the MARB GA fleet scenario. The SNA operations by aircraft type were scaled proportionally to the MARB GA fleet scenario of an annual operations count of 10,608.

Table 4: General Aviation Fleet Scenario Assumptions

SNA GA FLEET EXAMPLE			MARB GA FLEET SCENARIO	
AEDT Model Type	**Annual Total**	**Percentage**	**MARB Annual Total**	**MARB Daily Ops**
Twin Engine Regional Jet				
CNA55B	4,346	4.5%	473	1.295
CL600	3,334	3.4%	363	0.994
CNA525C	3,176	3.3%	346	0.947
LEAR35	3,000	3.1%	326	0.894
GIV	2,860	2.9%	311	0.852
CNA560XL	2,316	2.4%	252	0.690
CL601	1,942	2.0%	211	0.579
GV	1,872	1.9%	204	0.558
CNA750	1,520	1.6%	165	0.453
CNA560U	1,452	1.5%	158	0.433
MU3001	1,448	1.5%	158	0.432
CNA680	1,136	1.2%	124	0.339
F10062	958	1.0%	104	0.286
CNA510	838	0.9%	91	0.250
CIT3	788	0.8%	86	0.235
IA1125	490	0.5%	53	0.146
ECLIPSE500	236	0.2%	26	0.070
Commuter Prop				
DHC6	2,890	3.0%	314	0.861
CNA441	2,888	3.0%	314	0.861
DO228	360	0.4%	39	0.107
CNA208	2,504	2.6%	272	0.746
DHC830	1,156	1.2%	126	0.345
GA Prop				
GASEPF	31,054	31.8%	3379	9.256
CNA 172	9,914	10.2%	1079	2.955
GASEPV	6,912	7.1%	752	2.060
BEC58P	3,060	3.1%	333	0.912
CNA182	2,286	2.3%	249	0.681
CNA 206	1,500	1.5%	163	0.447
PA28	966.00	1.0%	105	0.288
PA31	302	0.3%	33	0.090
TOTAL ANNUAL OPS	**97,504**		**10,608**	**Daily**

<u>Time-of-day</u>

As is common for GA aircraft, all GA operations were assumed to be conducted during daytime hours.

Runway End

As in all other scenarios, the GA Fleet Scenario assumed Runway 14 is used ten percent of the time and Runway 32 is used ninety percent of the time.

Flight Tracks

Emissions generated from flight tracks are independent of flight track usage. All aircraft were modeled on "straight-in" and "straight-out" flight tracks.

GSE and APU

The AEDT has pre-populated default equipment utilization information for GSE and APU for all aircraft models that use GSE and APUs. The GA fleet is comprised of a diverse group of aircraft manufacturers and models with different GSE and APU utilization assumptions. The recommended default configurations and usage were assumed in this modeling effort.

If you have any questions or require additional information, please contact me.

Sincerely,

MEAD & HUNT, Inc.

Corbett Smith, C.M.
Project Manager

Exhibits:

Exhibit 1. Preferred Flight Operations – Noise Contours

Exhibit 2. GA Fleet – Noise Contours

Exhibit 3. No Night Flights – Noise Contours

Exhibit 4. Reduced Flight Operations – Noise Contours

Exhibit 5. ALL Scenarios – Noise Contours

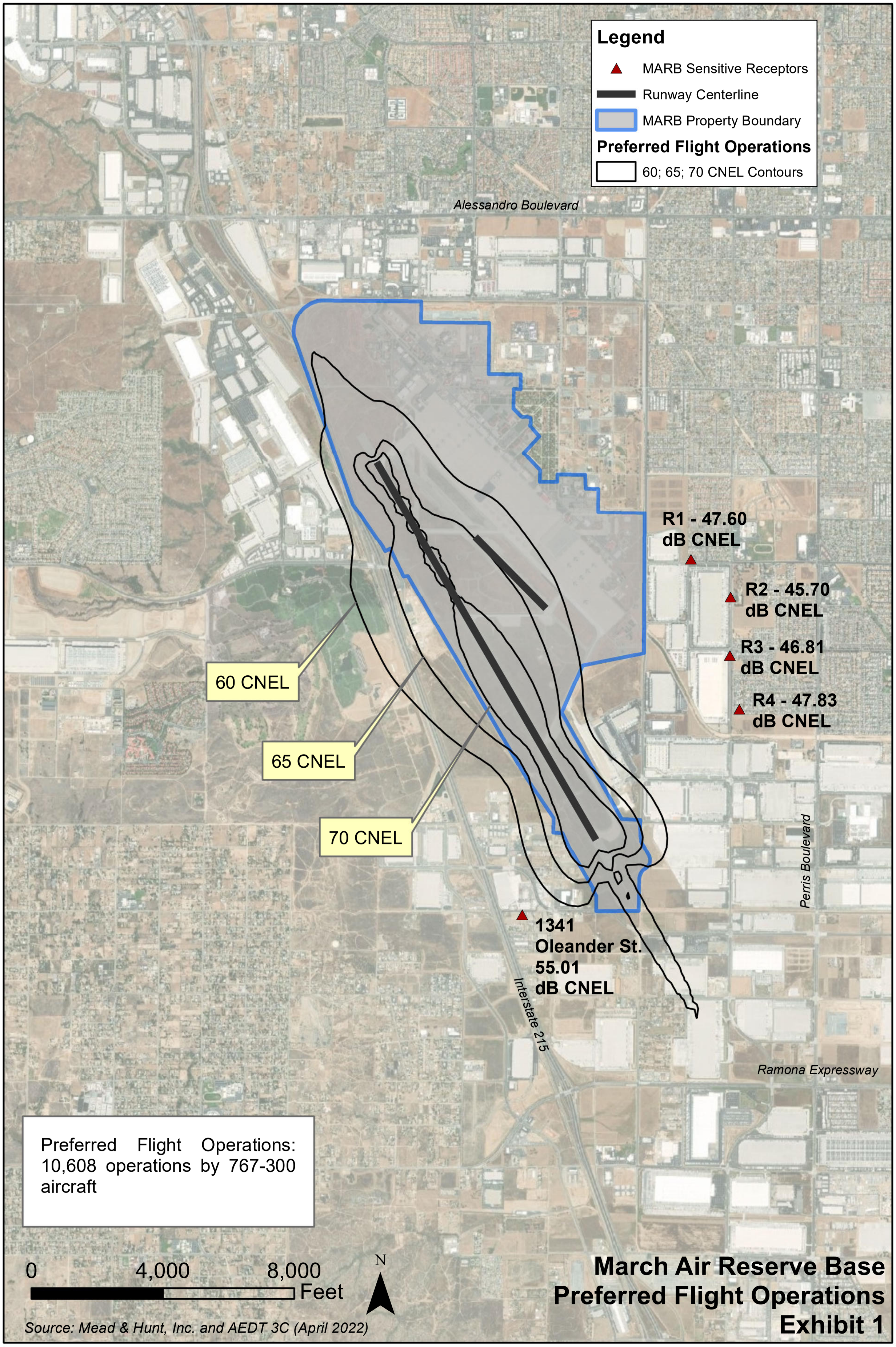
Exhibit 6. 2018 AICUZ Cargo Operations – Noise Contours

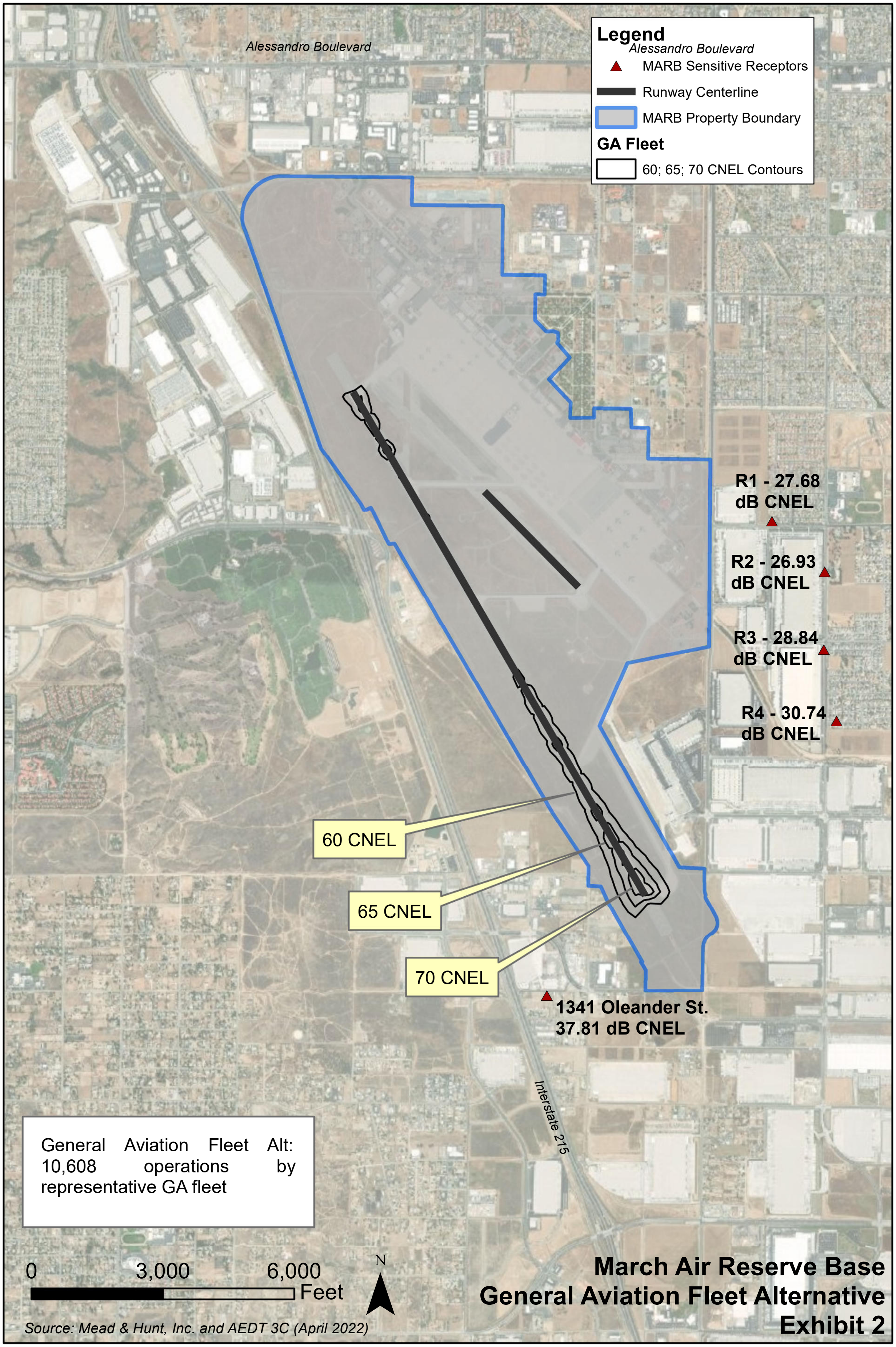
Exhibit 7. Preferred Flight Operations Comparison with 2018 AICUZ Cargo Operations – Noise Contours

Attachments:

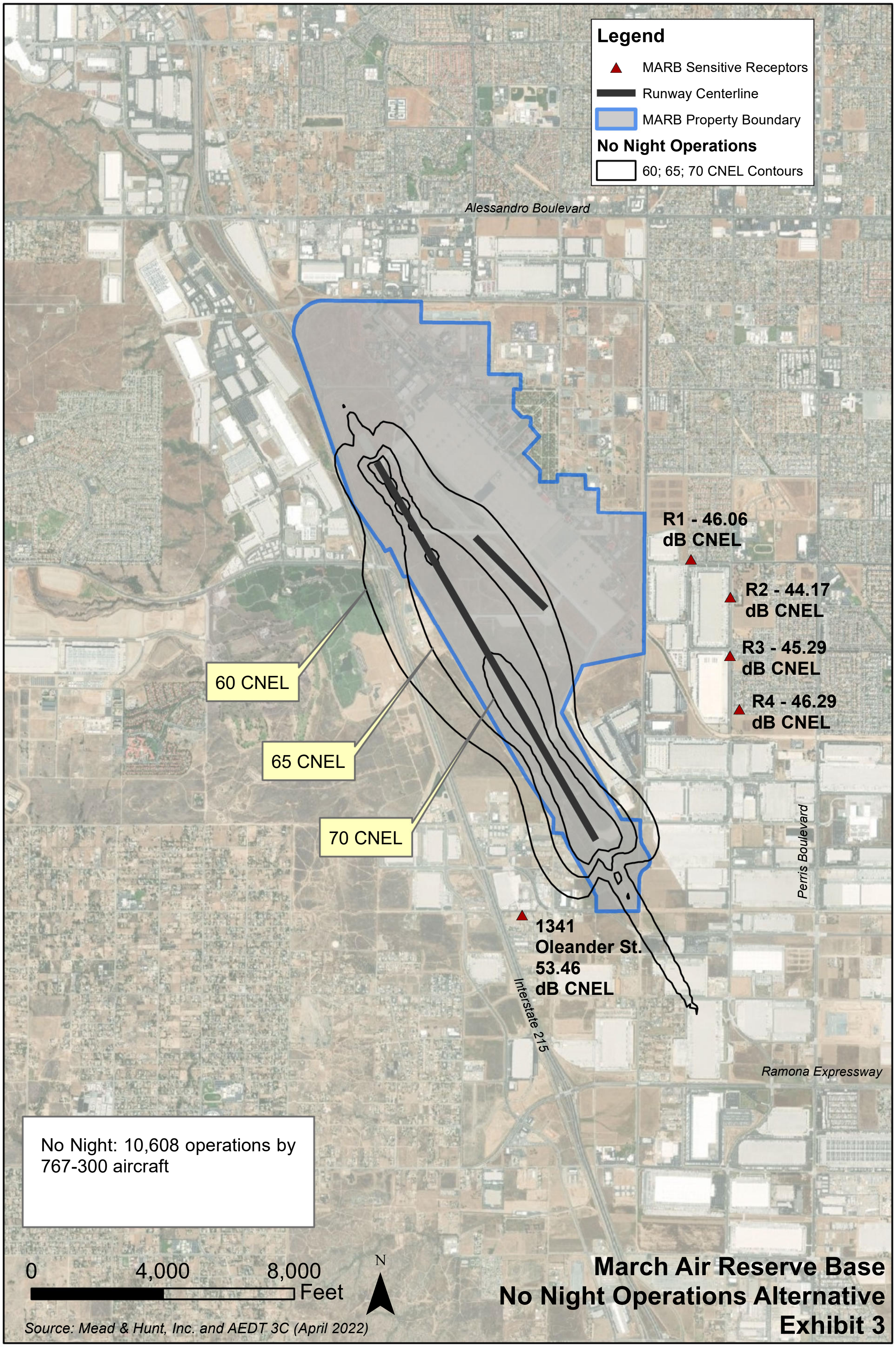
Attachment A - MARB Cargo Emissions Summary April 22.xls – Contains criteria pollutant summaries for all scenarios.

Attachment B - MARB D1 OG and HAPs all scenarios April 22.xls – Contains Organic Gasses and Hazardous Air Pollutant summaries for all scenarios.

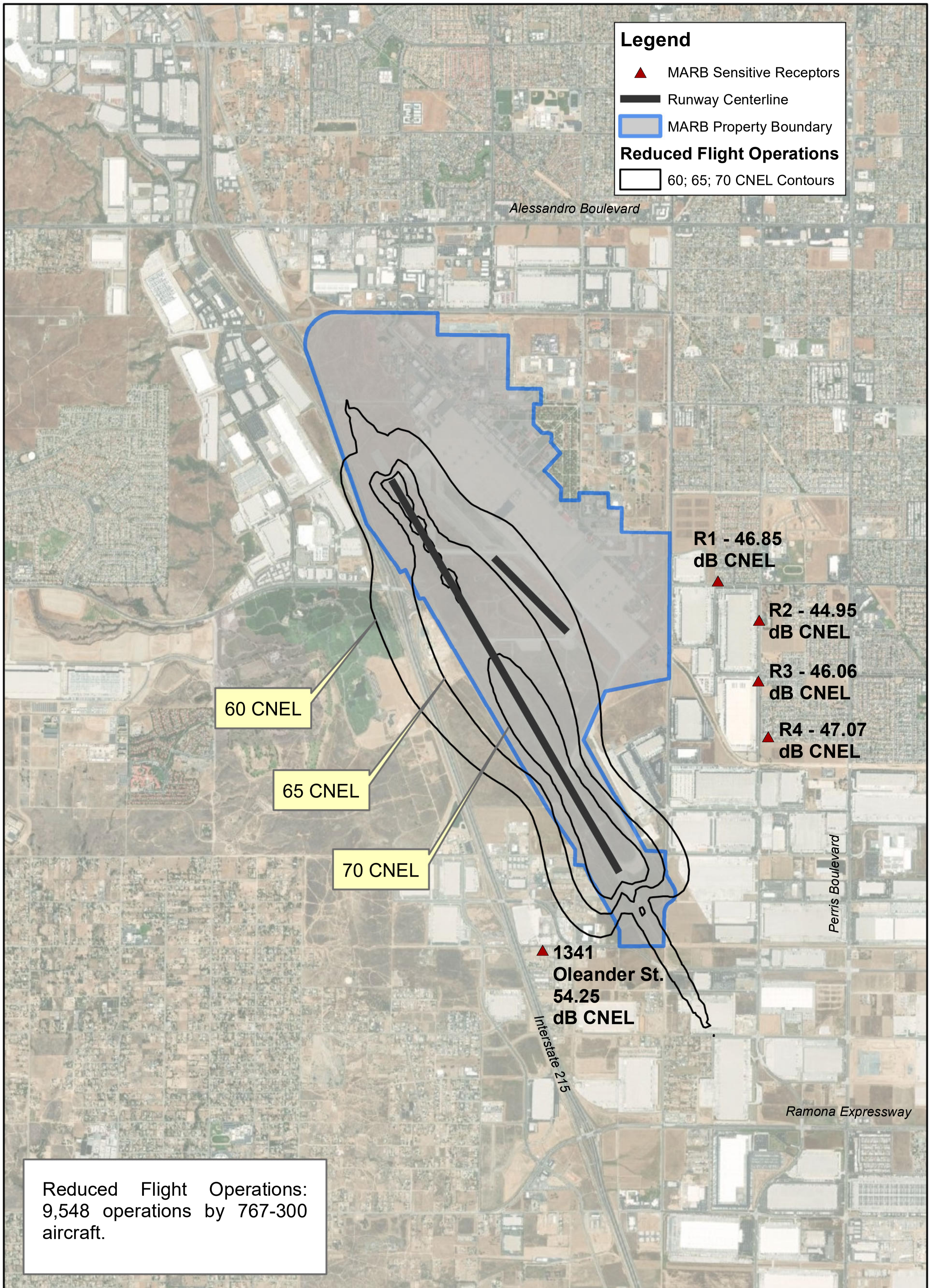

Legend
MARB Sensitive Receptors
Runway Centerline
MARB Property Boundary
Preferred Flight Operations
60; 65; 70 CNEL Contours
Alessandro Boulevard
R1 - 47.60 dB CNEL
R2 - 45.70 dB CNEL
R3 - 46.81 dB CNEL
R4 - 47.83 dB CNEL
60 CNEL
65 CNEL
70 CNEL
1341 Oleander St. 55.01 dB CNEL
Interstate 215
Perris Boulevard
Ramona Expressway
Preferred Flight Operations: 10,608 operations by 767-300 aircraft
0
4,000
8,000
Feet
N
Source: Mead & Hunt, Inc. and AEDT 3C (April 2022)
March Air Reserve Base
Preferred Flight Operations
Exhibit 1



March Air Reserve Base
General Aviation Fleet Alternative
Exhibit 2

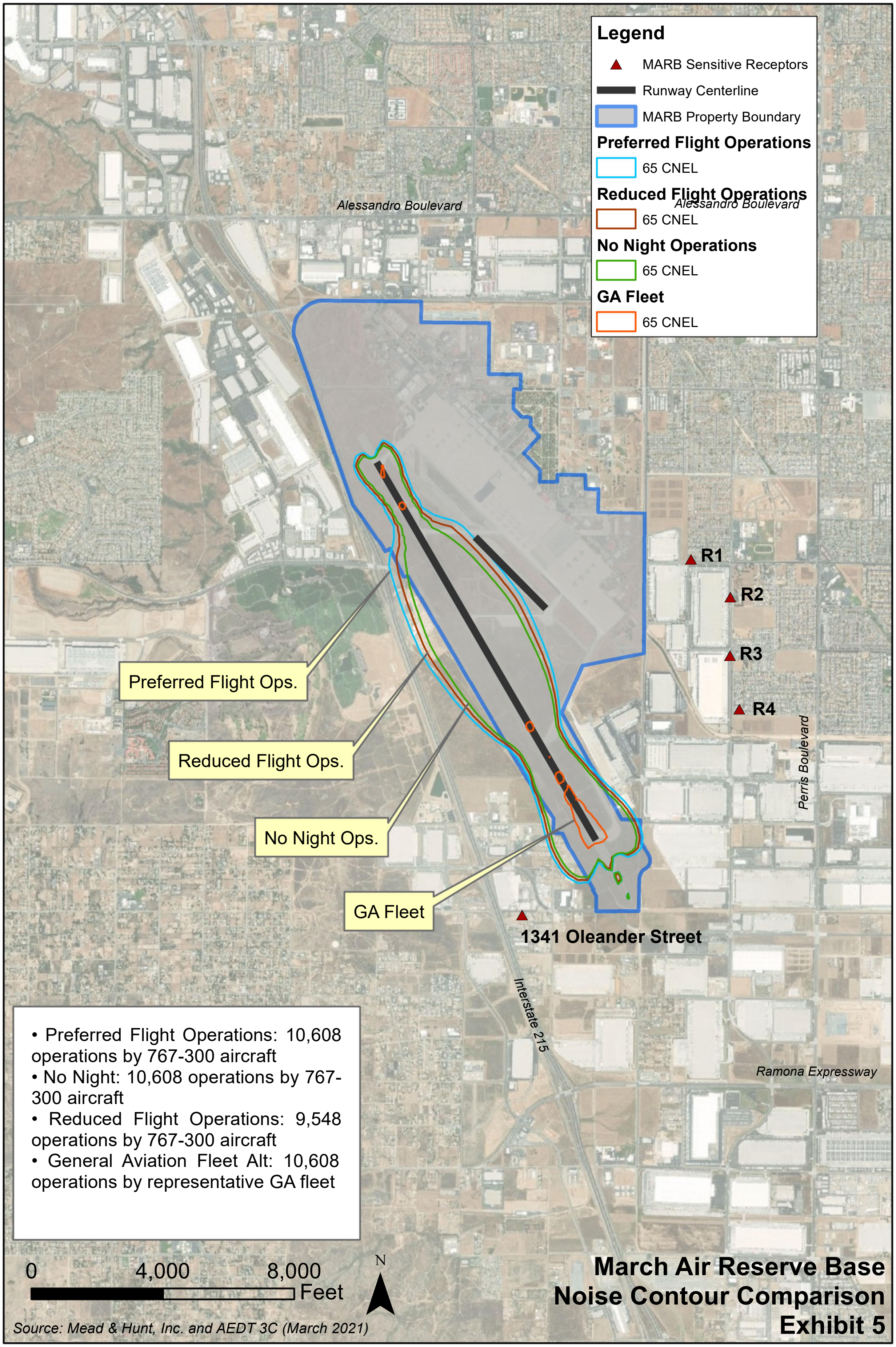


March Air Reserve Base
No Night Operations Alternative
Exhibit 3

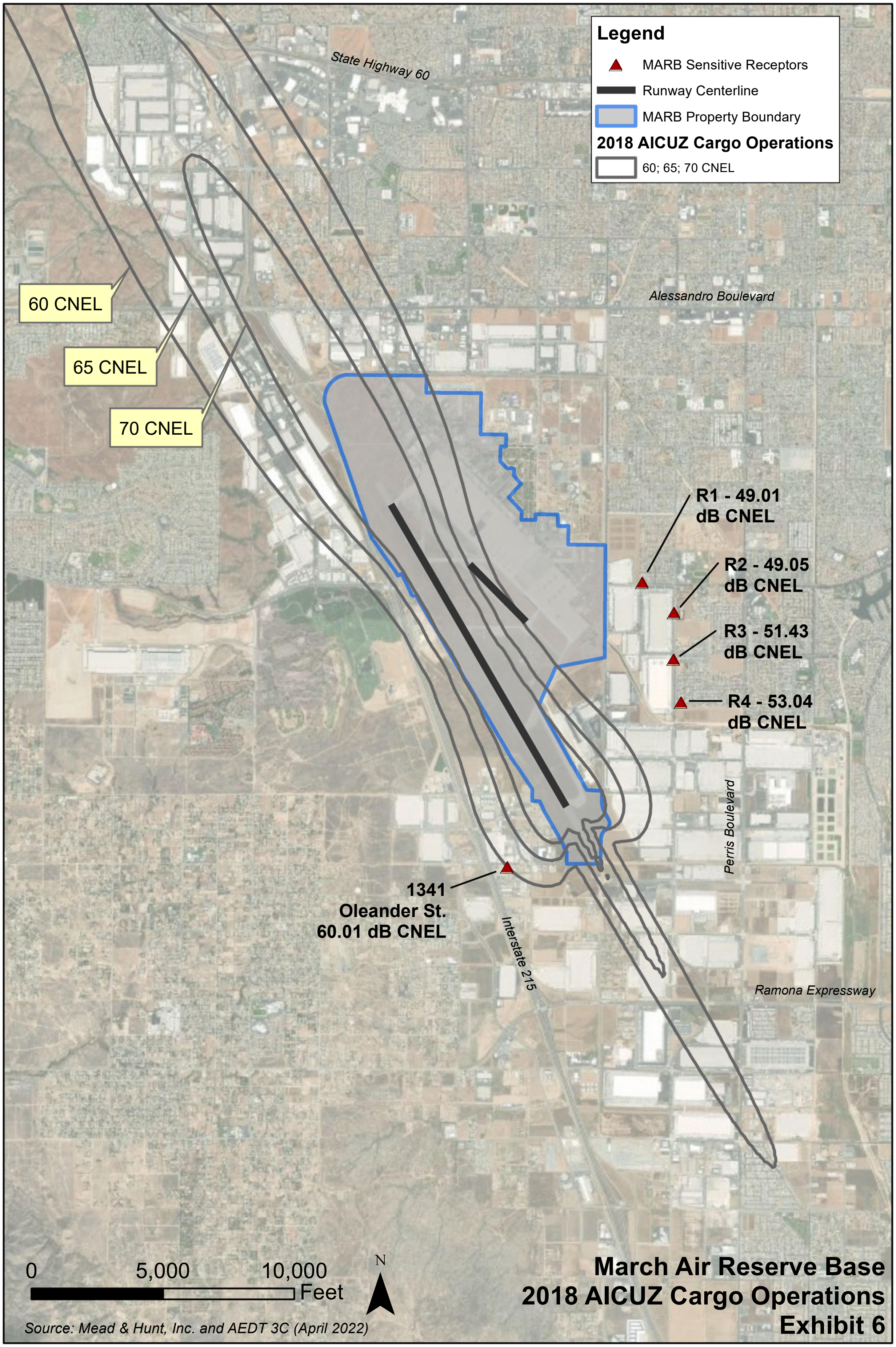


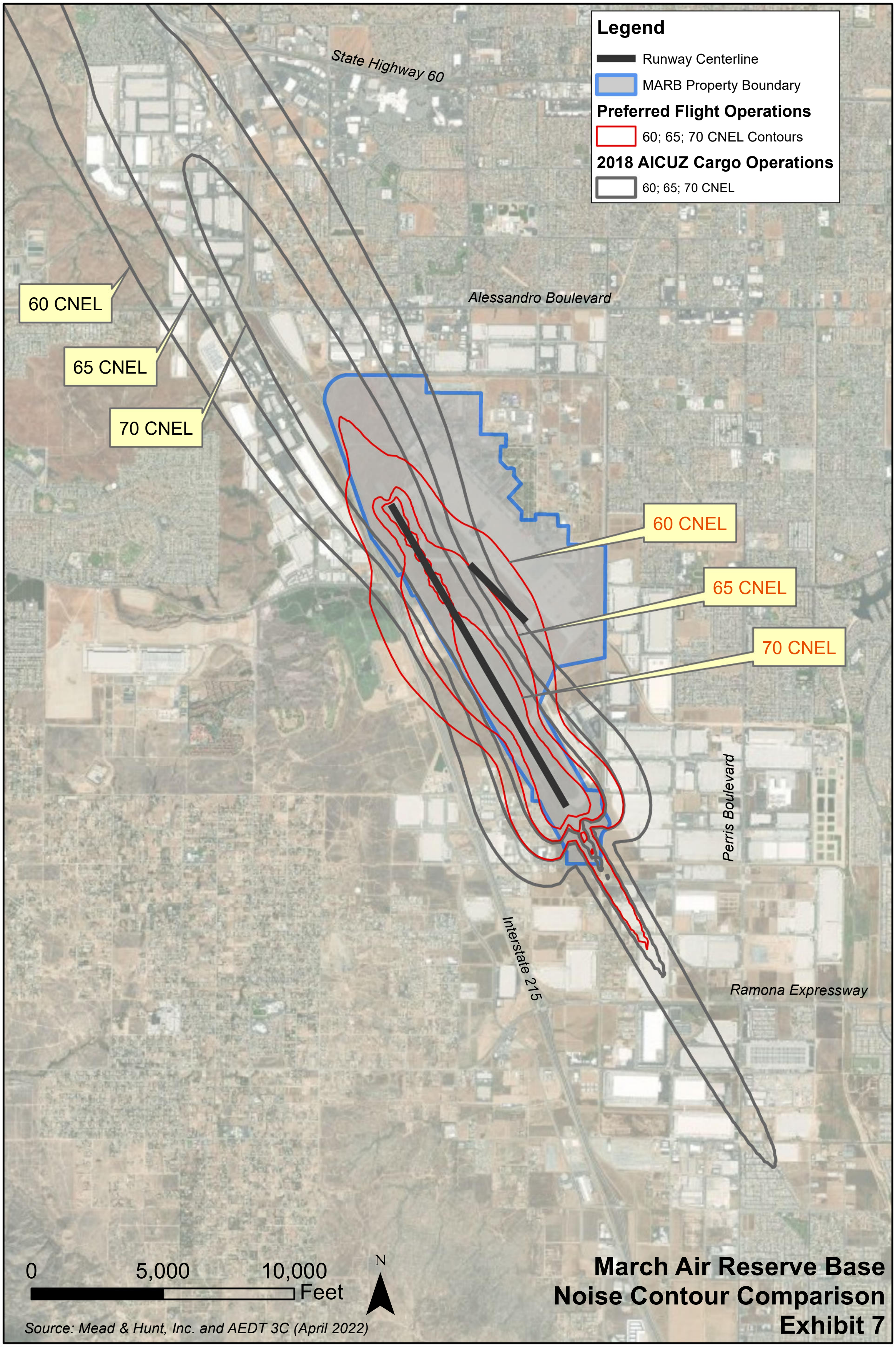
March Air Reserve Base
Reduced Flight Operations Alternative
Exhibit 4

Source: Mead & Hunt, Inc. and AEDT 3C (April 2022)



March Air Reserve Base
Noise Contour Comparison
Exhibit 5


Legend
MARB Sensitive Receptors
Runway Centerline
MARB Property Boundary
2018 AICUZ Cargo Operations
60; 65; 70 CNEL
State Highway 60
Alessandro Boulevard
60 CNEL
65 CNEL
70 CNEL
R1 - 49.01 dB CNEL
R2 - 49.05 dB CNEL
R3 - 51.43 dB CNEL
R4 - 53.04 dB CNEL
Perris Boulevard
1341 Oleander St. 60.01 dB CNEL
Interstate 215
Ramona Expressway
0
5,000
10,000
Feet
N
March Air Reserve Base
2018 AICUZ Cargo Operations
Exhibit 6
Source: Mead & Hunt, Inc. and AEDT 3C (April 2022)



March Air Reserve Base
Noise Contour Comparison
Exhibit 7

No Night Operations (Combined Peak and Non-Peak)

Mode	Fuel	CO	VOC	NOx	CO2	SOx	PM 2.5	PM 10
Daily								
Climb Below Mixing Height	12.2252	0.2252	0.0634	0.2496	38.5705	0.0143	0.0014	0.0014
Descend Below Mixing Height	6.6510	0.1311	0.0312	0.0439	20.9840	0.0078	0.0006	0.0006
GSE LTO	0.0000	0.0458	0.0021	0.0070	0.0000	0.0000	0.0004	0.0004
APU	0.0000	0.0035	0.0004	0.0080	0.0000	0.0008	0.0008	0.0008
TOTALS (ST/DAY)	**18.8762**	**0.4055**	**0.0972**	**0.3085**	**59.5544**	**0.0230**	**0.0032**	**0.0032**
TOTALS (LBS/DAY)	**37752.4200**	**811.0200**	**194.3400**	**617.0000**	**119108.8800**	**45.9800**	**6.3800**	**6.4400**
Annual								
Mode	**Fuel**	**CO**	**VOC**	**NOx**	**CO2**	**SOx**	**PM 2.5**	**PM 10**
Climb Below Mixing Height	4,462.1944	82.1871	23.1520	91.1004	14,078.2252	5.2268	0.5074	0.5074
Descend Below Mixing Height	2,427.6223	47.8442	11.3844	16.0272	7,659.1454	2.8434	0.2336	0.2336
GSE LTO	-	16.7097	0.7775	2.5477	-	0.0146	0.1424	0.1533
APU	-	1.2702	0.1533	2.9273	-	0.3066	0.2811	0.2811
TOTALS (ST/Year)	**6,889.8167**	**148.0112**	**35.4671**	**112.6025**	**21,737.3706**	**8.3914**	**1.1644**	**1.1753**
TOTALS (LBS/Year)	**13,779,633.3000**	**296,022.3000**	**70,934.1000**	**225,205.0000**	**43,474,741.2000**	**16,782.7000**	**2,328.7000**	**2,350.6000**

Reduced Operations Alternative (Combined Peak and Non-Peak)

Mode	Fuel	CO	VOC	NOx	CO2	SOx	PM 2.5	PM 10
Daily								
Climb Below Mixing Height	11.0137	0.2029	0.0571	0.2249	34.7481	0.0129	0.0013	0.0013
Descend Below Mixing Height	5.9786	0.1178	0.0280	0.0395	18.8625	0.0070	0.0006	0.0006
GSE LTO	-	0.0412	0.0019	0.0063	-	0.0000	0.0004	0.0004
APU	-	0.0031	0.0004	0.0072	-	0.0008	0.0007	0.0007
TOTALS (ST/DAY)	**16.9923**	**0.3650**	**0.0875**	**0.2778**	**53.6106**	**0.0207**	**0.0029**	**0.0029**
TOTALS (LBS/DAY)	**33,984.5200**	**730.0600**	**174.9400**	**555.6400**	**107,221.1600**	**41.4000**	**5.7600**	**5.7800**
Annual								
Mode	**Fuel**	**CO**	**VOC**	**NOx**	**CO2**	**SOx**	**PM 2.5**	**PM 10**
Climb Below Mixing Height	4,019.9859	74.0439	20.8561	82.0703	12,683.0602	4.7085	0.4563	0.4563
Descend Below Mixing Height	2,182.1890	43.0080	10.2346	14.4066	6,884.8016	2.5550	0.2117	0.2117
GSE LTO	-	15.0380	0.6972	2.2922	-	0.0146	0.1314	0.1351
APU	-	1.1461	0.1387	2.6353	-	0.2774	0.2519	0.2519
TOTALS (ST/Year)	**6,202.1749**	**133.2360**	**31.9266**	**101.4043**	**19,567.8617**	**7.5555**	**1.0512**	**1.0549**
TOTALS (LBS/Year)	**12,404,349.8000**	**266,471.9000**	**63,853.1000**	**202,808.6000**	**39,135,723.4000**	**15,111.0000**	**2,102.4000**	**2,109.7000**

General Aviation Fleet Alternative

Mode	Fuel	CO	VOC	NOx	CO2	SOx	PM 2.5	PM 10
Daily								
Climb Below Mixing Height	0.9970	0.0559	0.0084	0.0063	3.1454	0.0012	0.0002	0.0002
Descend Below Mixing Height	0.6331	0.0542	0.0048	0.0029	1.9975	0.0007	0.0002	0.0002
GSE LTO	-	0.0097	0.0003	0.0008	-	0.0000	0.0000	0.0000
APU	-	0.0024	0.0000	0.0005	-	0.0001	0.0001	0.0001
TOTALS (ST/DAY)	**1.6301**	**0.1222**	**0.0135**	**0.0105**	**5.1429**	**0.0020**	**0.0005**	**0.0005**
TOTALS (LBS/DAY)	**3,260.1800**	**244.3800**	**27.0600**	**21.0600**	**10,285.8600**	**4.0200**	**0.9200**	**0.9200**
Annual								
Mode	**Fuel**	**CO**	**VOC**	**NOx**	**CO2**	**SOx**	**PM 2.5**	**PM 10**
Climb Below Mixing Height	363.8904	20.4072	3.0697	2.2995	1,148.0783	0.4271	0.0730	0.0730
Descend Below Mixing Height	231.0925	19.7684	1.7374	1.0695	729.0912	0.2701	0.0548	0.0548
GSE LTO	-	3.5442	0.1168	0.2957	-	0.0037	0.0146	0.0146
APU	-	0.8797	0.0146	0.1789	-	0.0329	0.0256	0.0256
TOTALS (ST/Year)	**594.9829**	**44.5994**	**4.9385**	**3.8435**	**1,877.1695**	**0.7337**	**0.1679**	**0.1679**
TOTALS (LBS/Year)	**1,189,965.7000**	**89,198.7000**	**9,876.9000**	**7,686.9000**	**3,754,338.9000**	**1,467.3000**	**335.8000**	**335.8000**

ATTACHMENT A - Prefered Flight Ops Scenario - Peak vs Non Peak Emissions

Prefered Flight Operations (Peak Only)

Daily Mode	Fuel (ST)	CO (ST)	VOC (ST)	NOx (ST)	CO2 (ST)	SOx (ST)	PM 2.5 (ST)	PM 10 (ST)
Climb Below Mixing Height	1.1948	0.0220	0.0054	0.0244	3.7695	0.0014	0.0001	0.0001
Descend Below Mixing Height	0.6541	0.0129	0.0031	0.0043	2.0638	0.0008	0.0001	0.0001
GSE LTO	-	0.0045	0.0002	0.0007	-	-	0.0000	0.0000
APU	-	0.0003	0.0000	0.0008	-	0.0001	0.0001	0.0001
TOTALS (ST/DAY)	**1.8489**	**0.0397**	**0.0088**	**0.0302**	**5.8333**	**0.0023**	**0.0003**	**0.0003**
TOTALS (LBS/DAY)	**3,697.8000**	**79.4600**	**17.5000**	**60.3600**	**11,666.5800**	**4.5000**	**0.6400**	**0.6400**

Prefered Flight Operations (Non-Peak Only)

Daily Mode	Fuel (ST)	CO (ST)	VOC (ST)	NOx (ST)	CO2 (ST)	SOx (ST)	PM 2.5 (ST)	PM 10 (ST)
Climb Below Mixing Height	11.0305	0.2032	0.0501	0.2252	34.8013	0.0129	0.0013	0.0013
Descend Below Mixing Height	5.9969	0.1182	0.0281	0.0396	18.9202	0.0070	0.0006	0.0006
GSE LTO	-	0.0413	0.0019	0.0063	-	0.0000	0.0004	0.0004
APU	-	0.0031	0.0004	0.0072	-	0.0008	0.0007	0.0007
TOTALS (ST)	**17.0274**	**0.3658**	**0.0806**	**0.2783**	**53.7215**	**0.0207**	**0.0029**	**0.0029**
TOTALS (LBS/DAY)	**34,054.8000**	**731.6000**	**161.1200**	**556.6400**	**107,442.9200**	**41.4800**	**5.7600**	**5.7800**

ATTACHMENT B - March Air Reserve Base - D1 Project - Prefered Flight Operations - Speciated Organic Gases and Hazardous Air Pollutants - April 2022

Combined on and off-site

Mode	Formaldehyde (IRIS, CAA)	Methyl alcohol (IRIS, CAA)	Benzene (IRIS, CAA)	C-5 Benzene + C-4 Aroald	C-4 Benzene + C-3 Aroald	Acetaldehyde (IRIS, CAA)	Naphthalene (IRIS, CAA)	O-xylene (IRIS, CAA)	Isopropylbenzene (cumene) (IRIS, CAA)	Ethylbenzene (IRIS, CAA)	Styrene (IRIS, CAA)	M & P-xylene (IRIS, CAA)	1,3-butadiene (IRIS, CAA)	Acrolein (IRIS, CAA)	M-xylene (IRIS, CAA)	Toluene (IRIS, CAA)	Phenol (carbolic acid) (IRIS, CAA)	N-hexane (IRIS, CAA)	2,2,4-trimethylpentane (IRIS, CAA)
Departure Below Mixing Height	0.006875	0.0010081	0.0009388	0.000181	0.000366	0.0023859	0.000302	9.27E-05	1.68E-06	9.72E-05	0.000173	0.000157	0.0009422	0.0013677		0.000358549	0.000405		
Arrival Below Mixing Height	0.00386	0.000566	0.0005271	0.000102	0.000206	0.0013395	0.00017	5.21E-05	9.37E-07	5.46E-05	9.69E-05	8.84E-05	0.000529	0.0007679		0.000201304	0.000228		
DepartureTaxi	0.006789	0.0009955	0.0009271	0.000179	0.000362	0.002356	0.000298	9.15E-05	1.65E-06	9.60E-05	0.00017	0.000156	0.0009304	0.0013506		0.000354062	0.0004		
ArrivalTaxi	0.003369	0.000494	0.0004601	8.87E-05	0.00018	0.0011692	0.000148	4.54E-05	8.16E-07	4.76E-05	8.46E-05	7.72E-05	0.0004617	0.0006703		0.000175708	0.000199		
Ground Service Equipment	6.39E-05		1.55E-05			2.16E-05		8.07E-06		5.94E-06					1.65E-05	2.64E-05		1.36E-05	1.33E-05
Aircraft Auxiliary Power Units	3.55E-05	5.21E-06	4.85E-06	9.37E-07	1.90E-06	1.23E-05	1.57E-06	4.74E-07	1.10E-08	5.07E-07	8.93E-07	8.16E-07	4.87E-06	7.07E-06		1.85E-06	2.09E-06		
DAILY TOTAL (ST)	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
DAILY TOTAL (LBS)	**21.67**	**3.16**	**2.97**	**0.57**	**1.15**	**7.52**	**0.95**	**0.31**	**0.01**	**0.32**	**0.54**	**0.49**	**2.95**	**4.29**	**0.03**	**1.18**	**1.27**	**0.03**	**0.03**
ANNUAL TOTAL (ST)	**3.95**	**0.58**	**0.54**	**0.10**	**0.21**	**1.37**	**0.17**	**0.06**	**0.00**	**0.06**	**0.10**	**0.09**	**0.54**	**0.78**	**0.01**	**0.21**	**0.23**	**0.00**	**0.00**
ANNUAL TOTAL (LBS)	**7,909.14**	**1,152.87**	**1,084.99**	**206.95**	**418.99**	**2,744.31**	**345.54**	**111.91**	**1.92**	**115.48**	**197.37**	**180.12**	**1,077.49**	**1,564.18**	**12.04**	**429.34**	**463.70**	**9.91**	**9.71**

On-Site

Mode	Formaldehyde (IRIS, CAA)	Methyl alcohol (IRIS, CAA)	Benzene (IRIS, CAA)	C-5 Benzene + C-4 Aroald	C-4 Benzene + C-3 Aroald	Acetaldehyde (IRIS, CAA)	Naphthalene (IRIS, CAA)	O-xylene (IRIS, CAA)	Isopropylbenzene (cumene) (IRIS, CAA)	Ethylbenzene (IRIS, CAA)	Styrene (IRIS, CAA)	M & P-xylene (IRIS, CAA)	1,3-butadiene (IRIS, CAA)	Acrolein (IRIS, CAA)	M-xylene (IRIS, CAA)	Toluene (IRIS, CAA)	Phenol (carbolic acid) (IRIS, CAA)	N-hexane (IRIS, CAA)	2,2,4-trimethylpentane (IRIS, CAA)
Aircraft Auxiliary Power Units	3.55E-05	5.21E-06	4.85E-06	9.37E-07	1.90E-06	1.23E-05	1.57E-06	4.74E-07	1.10E-08	5.07E-07	8.93E-07	8.16E-07	4.87E-06	7.07E-06	0.00E+00	1.85E-06	2.09E-06	0.00E+00	0.00E+00
Ground Service Equipment	6.39E-05	0.00E+00	1.55E-05	0.00E+00	0.00E+00	2.16E-05	0.00E+00	8.07E-06	0.00E+00	5.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-05	2.64E-05	0.00E+00	1.36E-05	1.33E-05
Taxi out - 5% Assigned **	3.39E-04	4.98E-05	4.64E-05	8.93E-06	1.81E-05	1.18E-04	1.49E-05	4.58E-06	8.27E-08	4.80E-06	8.52E-06	7.78E-06	4.65E-05	6.75E-05	0.00E+00	1.77E-05	2.00E-05	0.00E+00	0.00E+00
Taxi in - 5% Assigned **	0.000168	2.47E-05	2.3E-05	4.43E-06	8.98E-06	5.846E-05	7.4E-06	2.27E-06	4.08E-08	2.38099E-06	4.23E-06	3.86E-06	2.309E-05	3.351E-05	0	8.78542E-06	9.94E-06	0	0
DAILY ON-SITE TOTAL (ST)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
DAILY ON-SITE TOTAL (LBS)	**1.21**	**0.16**	**0.18**	**0.03**	**0.06**	**0.42**	**0.05**	**0.03**	**0.00**	**0.03**	**0.03**	**0.02**	**0.15**	**0.22**	**0.03**	**0.11**	**0.06**	**0.03**	**0.03**
ANNUAL ON-SITE TOTAL (ST)	**0.22**	**0.03**	**0.03**	**0.01**	**0.01**	**0.08**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.04**	**0.01**	**0.02**	**0.01**	**0.00**	**0.00**
ANNUAL ON-SITE TOTAL (LBS)	**443.39**	**58.17**	**65.50**	**10.44**	**21.14**	**153.44**	**17.44**	**11.24**	**0.10**	**9.95**	**9.96**	**9.09**	**54.37**	**78.92**	**12.04**	**39.98**	**23.40**	**9.91**	**9.71**

Off-Site

Mode	Formaldehyde (IRIS, CAA)	Methyl alcohol (IRIS, CAA)	Benzene (IRIS, CAA)	C-5 Benzene + C-4 Aroald	C-4 Benzene + C-3 Aroald	Acetaldehyde (IRIS, CAA)	Naphthalene (IRIS, CAA)	O-xylene (IRIS, CAA)	Isopropylbenzene (cumene) (IRIS, CAA)	Ethylbenzene (IRIS, CAA)	Styrene (IRIS, CAA)	M & P-xylene (IRIS, CAA)	1,3-butadiene (IRIS, CAA)	Acrolein (IRIS, CAA)	M-xylene (IRIS, CAA)	Toluene (IRIS, CAA)	Phenol (carbolic acid) (IRIS, CAA)	N-hexane (IRIS, CAA)	2,2,4-trimethylpentane (IRIS, CAA)
Departure Below Mixing Height	0.006875	0.0010081	0.0009388	0.000181	0.000366	0.0023859	0.000302	9.27E-05	1.68E-06	9.71798E-05	0.000173	0.000157	0.0009422	0.0013677	0	0.000358549	0.000405	0	0
Arrival Below Mixing Height	0.00386	0.000566	0.0005271	0.000102	0.000206	0.0013395	0.00017	5.21E-05	9.37E-07	5.45644E-05	9.69E-05	8.84E-05	0.000529	0.0007679	0	0.000201304	0.000228	0	0
Taxi out - 5% subtracted out **	0.000339	4.977E-05	4.635E-05	8.93E-06	1.81E-05	0.0001178	1.49E-05	4.58E-06	8.27E-08	4.79781E-06	8.52E-06	7.78E-06	4.652E-05	6.753E-05	0	1.77031E-05	2E-05	0	0
Taxi in - 5% subtracted out **	0.000168	2.47E-05	2.3E-05	4.43E-06	8.98E-06	5.846E-05	7.4E-06	2.27E-06	4.08E-08	2.38099E-06	4.23E-06	3.86E-06	2.309E-05	3.351E-05	0	8.78542E-06	9.94E-06	0	0
DAILY ON-SITE TOTAL (ST)	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	-	**0.00**	**0.00**	-	-
DAILY ON-SITE TOTAL (LBS)	**20.45**	**3.00**	**2.79**	**0.54**	**1.09**	**7.10**	**0.90**	**0.28**	**0.00**	**0.29**	**0.51**	**0.47**	**2.80**	**4.07**	-	**1.07**	**1.21**	-	-
ANNUAL ON-SITE TOTAL (ST)	**3.73**	**0.55**	**0.51**	**0.10**	**0.20**	**1.30**	**0.16**	**0.05**	**0.00**	**0.05**	**0.09**	**0.09**	**0.51**	**0.74**	-	**0.19**	**0.22**	-	-
ANNUAL ON-SITE TOTAL (LBS)	**7,465.76**	**1,094.70**	**1,019.49**	**196.51**	**397.85**	**2,590.87**	**328.10**	**100.67**	**1.82**	**105.53**	**187.41**	**171.03**	**1,023.12**	**1,485.26**	-	**389.36**	**440.31**	-	-

* Speciated Organic Gasses and Hazardous Air Pollutant information is not available for aircraft engine startup
** Sub totals above for on-site and off-site assume that 5% of taxiing aircraft emissions occur within the project boundary and 95% occur outside of the project boundary
** For off-site sub totals, taxi emissions are included in the "departure below mixing height" and "arrival below mixing height". Therefore, 5% of taxi emissions are subtracted from the off-site sub total to reflect 95% of all taxi emissions occuring off-site.
* Blank cells reflect data not available

Propionaldehyde (CAA)	Acetone (IRIS)	2-methylnaphthalene (IRIS)	Benzaldehyde (IRIS)	N-heptane (IRIS)	Hexaldehyde	Methane	Ethane	Ethylene	Acetylene	Propane	1-propyne	Isobutane	2,2-dimethylbutane	Isopentane	Isoprene	2-methyl-2-propenal (methacrolein)	Methylglyoxal	2,3-dimethylbutane	1-Methylnaphthalene	1,2,4-trimethylbenzene (1,3,4-trimethylbenzene)
0.000406025	0.000206	0.000115	0.000262	3.57E-05			0.000290977	0.0086348	0.0021999	4.36E-05						0.00023959	0.000839		0.000137943	0.000195
0.000227958	0.000116	6.46E-05	0.000147	2.01E-05			0.000163363	0.004848	0.0012351	2.45E-05						0.00013452	0.000471		7.74E-05	0.00011
0.000400933	0.000203	0.000114	0.000259	3.53E-05			0.000287328	0.0085267	0.0021723	4.30E-05						0.00023659	0.000829		0.000136224	0.000193
0.000198978	0.000101	5.64E-05	0.000129	1.75E-05			0.000142595	0.0042316	0.0010781	2.14E-05						0.00011742	0.000411		6.76E-05	9.58E-05
1.31E-05			4.09E-06	6.47E-06	5.95E-07	2.17E-05	6.12E-06	3.86E-05	2.36E-05		2.13E-06	3.04E-05	1.95E-06	9.79E-05	8.82E-07			8.69E-06		1.28E-05
2.09E-06	1.07E-06	5.95E-07	1.36E-06	1.87E-07			1.50E-06	4.46E-05	1.14E-05	2.20E-07						1.23E-06	4.33E-06		7.17E-07	1.01E-06
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
1.30	**0.65**	**0.36**	**0.83**	**0.12**	**0.00**	**0.04**	**0.92**	**27.13**	**6.94**	**0.14**	**0.00**	**0.06**	**0.00**	**0.20**	**0.00**	**0.75**	**2.63**	**0.02**	**0.43**	**0.64**
0.24	**0.12**	**0.07**	**0.15**	**0.02**	**0.00**	**0.01**	**0.17**	**4.95**	**1.27**	**0.02**	**0.00**	**0.01**	**0.00**	**0.04**	**0.00**	**0.14**	**0.48**	**0.00**	**0.08**	**0.12**
473.93	**235.69**	**131.57**	**303.18**	**45.61**	**0.43**	**15.86**	**337.23**	**9,903.20**	**2,533.08**	**49.82**	**1.55**	**22.21**	**1.42**	**71.47**	**0.64**	**274.00**	**959.97**	**6.34**	**157.76**	**232.88**

2.09E-06	1.07E-06	5.95E-07	1.36E-06	1.87E-07	0.00E+00	0.00E+00	1.50E-06	4.46E-05	1.14E-05	2.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-06	4.33E-06	0.00E+00	7.17E-07	1.01E-06
1.31E-05	0.00E+00	0.00E+00	4.09E-06	6.47E-06	5.95E-07	2.17E-05	6.12E-06	3.86E-05	2.36E-05	0.00E+00	2.13E-06	3.04E-05	1.95E-06	9.79E-05	8.82E-07	0.00E+00	0.00E+00	8.69E-06	0.00E+00	1.28E-05
2.00E-05	1.02E-05	5.68E-06	1.30E-05	1.76E-06	0.00E+00	0.00E+00	1.44E-05	4.26E-04	1.09E-04	2.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-05	4.14E-05	0.00E+00	6.81E-06	9.65E-06
9.94891E-06	5.05E-06	2.82E-06	6.43E-06	8.76E-07	0	0	7.12975E-06	0.0002116	5.39E-05	1.07E-06	0	0	0	0	0	5.8709E-06	2.06E-05	0	3.38024E-06	4.79E-06
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.09	**0.03**	**0.02**	**0.05**	**0.02**	**0.00**	**0.04**	**0.06**	**1.44**	**0.39**	**0.01**	**0.00**	**0.06**	**0.00**	**0.20**	**0.00**	**0.04**	**0.13**	**0.02**	**0.02**	**0.06**
0.02	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**	**0.01**	**0.26**	**0.07**	**0.00**	**0.00**	**0.01**	**0.00**	**0.04**	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.01**
33.02	**11.89**	**6.64**	**18.13**	**6.79**	**0.43**	**15.86**	**21.25**	**526.42**	**144.16**	**2.51**	**1.55**	**22.21**	**1.42**	**71.47**	**0.64**	**13.82**	**48.43**	**6.34**	**7.96**	**20.61**

0.000406025	0.000206	0.000115	0.000262	3.57E-05	0	0	0.000290977	0.0086348	0.0021999	4.36E-05	0	0	0	0	0	0.00023959	0.000839	0	0.000137943	0.000195
0.000227958	0.000116	6.46E-05	0.000147	2.01E-05	0	0	0.000163363	0.004848	0.0012351	2.45E-05	0	0	0	0	0	0.00013452	0.000471	0	7.74484E-05	0.00011
2.00466E-05	1.02E-05	5.68E-06	1.3E-05	1.76E-06	0	0	1.43664E-05	0.0004263	0.0001086	2.15E-06	0	0	0	0	0	1.1829E-05	4.14E-05	0	6.81118E-06	9.65E-06
9.94891E-06	5.05E-06	2.82E-06	6.43E-06	8.76E-07	0	0	7.12975E-06	0.0002116	5.39E-05	1.07E-06	0	0	0	0	0	5.8709E-06	2.06E-05	0	3.38024E-06	4.79E-06
0.00	**0.00**	**0.00**	**0.00**	**0.00**	-	-	**0.00**	**0.01**	**0.00**	**0.00**	-	-	-	-	-	**0.00**	**0.00**	-	**0.00**	**0.00**
1.21	**0.61**	**0.34**	**0.78**	**0.11**	-	-	**0.87**	**25.69**	**6.55**	**0.13**	-	-	-	-	-	**0.71**	**2.50**	-	**0.41**	**0.58**
0.22	**0.11**	**0.06**	**0.14**	**0.02**	-	-	**0.16**	**4.69**	**1.19**	**0.02**	-	-	-	-	-	**0.13**	**0.46**	-	**0.07**	**0.11**
440.91	**223.80**	**124.94**	**285.05**	**38.82**	-	-	**315.98**	**9,376.78**	**2,388.93**	**47.31**	-	-	-	-	-	**260.17**	**911.54**	-	**149.80**	**212.27**

3-methylpentane	Methylcyclopentane	N-propylbenzene	N-butylbenzene	p-Tolualdehyde	N-butane	4-Phenyl-1-butene	3-methyl-1-butene	2-methyl-1-butene	1-butene	Glyoxal	2,4,4-trimethyl-1-pentene	2-methylpentane	2,4-dimethylpentane	1,3,5-trimethylbenzene	Methylcyclohexane	N-pentane	1-pentene	2-methyl-1-pentene	4-methyl-1-pentene	Valeraldehyde
		2.96E-05		2.68E-05			6.26E-05	7.82E-05	0.0009796	0.0010142		0.000227859		3.02E-05		0.000110584	0.000433	1.90E-05	3.85E-05	0.000137
		1.66E-05		1.50E-05			3.51E-05	4.39E-05	0.00055	0.0005694		0.000127934		1.69E-05		6.21E-05	0.000243	1.07E-05	2.16E-05	7.68E-05
		2.92E-05		2.65E-05			6.18E-05	7.72E-05	0.0009673	0.0010015		0.000225015		2.98E-05		0.000109195	0.000428	1.88E-05	3.81E-05	0.000135
		1.45E-05		1.31E-05			3.07E-05	3.83E-05	0.0004801	0.000497		0.000111664		1.48E-05		5.42E-05	0.000212	9.30E-06	1.89E-05	6.71E-05
1.37E-05	9.84E-06	2.74E-06	1.86E-06		0.000198835	2.30E-06	1.25E-06		9.84E-06		1.53E-05	2.49E-05	5.68E-06	1.07E-05	2.30E-06	4.31E-05	3.64E-06			
		1.54E-07		1.43E-07			3.20E-07	4.08E-07	5.06E-06	5.24E-06		1.18E-06		1.54E-07		5.73E-07	2.24E-06	9.92E-08	1.98E-07	7.05E-07
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.03	**0.02**	**0.10**	**0.00**	**0.08**	**0.40**	**0.00**	**0.20**	**0.24**	**3.09**	**3.18**	**0.03**	**0.76**	**0.01**	**0.12**	**0.00**	**0.43**	**1.37**	**0.06**	**0.12**	**0.43**
0.00	**0.00**	**0.02**	**0.00**	**0.02**	**0.07**	**0.00**	**0.04**	**0.04**	**0.56**	**0.58**	**0.01**	**0.14**	**0.00**	**0.02**	**0.00**	**0.08**	**0.25**	**0.01**	**0.02**	**0.08**
9.97	**7.19**	**35.86**	**1.36**	**30.66**	**145.15**	**1.68**	**72.45**	**89.42**	**1,127.47**	**1,159.88**	**11.20**	**278.78**	**4.14**	**42.32**	**1.68**	**157.93**	**498.29**	**21.72**	**44.07**	**156.48**

0.00E+00	0.00E+00	1.54E-07	0.00E+00	1.43E-07	0.00E+00	0.00E+00	3.20E-07	4.08E-07	5.06E-06	5.24E-06	0.00E+00	1.18E-06	0.00E+00	1.54E-07	0.00E+00	5.73E-07	2.24E-06	9.92E-08	1.98E-07	7.05E-07
1.37E-05	9.84E-06	2.74E-06	1.86E-06	0.00E+00	1.99E-04	2.30E-06	1.25E-06	0.00E+00	9.84E-06	0.00E+00	1.53E-05	2.49E-05	5.68E-06	1.07E-05	2.30E-06	4.31E-05	3.64E-06	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	1.46E-06	0.00E+00	1.32E-06	0.00E+00	0.00E+00	3.09E-06	3.86E-06	4.84E-05	5.01E-05	0.00E+00	1.13E-05	0.00E+00	1.49E-06	0.00E+00	5.46E-06	2.14E-05	9.38E-07	1.90E-06	6.76E-06
0	0	7.2532E-07	0	6.56978E-07	0	0	1.53276E-06	1.92E-06	2.4E-05	2.485E-05	0	5.58321E-06	0	7.391E-07	0	2.70948E-06	1.06E-05	4.6518E-07	9.4413E-07	3.35E-06
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.03	**0.02**	**0.01**	**0.00**	**0.00**	**0.40**	**0.00**	**0.01**	**0.01**	**0.17**	**0.16**	**0.03**	**0.09**	**0.01**	**0.03**	**0.00**	**0.10**	**0.08**	**0.00**	**0.01**	**0.02**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**
9.97	**7.19**	**3.71**	**1.36**	**1.55**	**145.15**	**1.68**	**4.52**	**4.51**	**63.71**	**58.52**	**11.20**	**31.34**	**4.14**	**9.57**	**1.68**	**37.85**	**27.66**	**1.10**	**2.22**	**7.89**

0	0	2.9597E-05	0	2.68082E-05	0	0	6.25562E-05	7.82E-05	0.0009796	0.0010142	0	0.000227859	0	3.01592E-05	0	0.000110584	0.000433	1.8993E-05	3.8537E-05	0.000137
0	0	1.6623E-05	0	1.50465E-05	0	0	3.51196E-05	4.39E-05	0.00055	0.0005694	0	0.000127934	0	1.69315E-05	0	6.20822E-05	0.000243	1.0659E-05	2.1638E-05	7.68E-05
0	0	1.4617E-06	0	1.32332E-06	0	0	3.08813E-06	3.86E-06	4.837E-05	5.008E-05	0	1.12507E-05	0	1.48922E-06	0	5.45975E-06	2.14E-05	9.3752E-07	1.9026E-06	6.76E-06
0	0	7.2532E-07	0	6.56978E-07	0	0	1.53276E-06	1.92E-06	2.4E-05	2.485E-05	0	5.58321E-06	0	7.391E-07	0	2.70948E-06	1.06E-05	4.6518E-07	9.4413E-07	3.35E-06
-	**-**	**0.00**	**-**	**0.00**	**-**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**0.00**	**-**	**0.00**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
-	**-**	**0.09**	**-**	**0.08**	**-**	**-**	**0.19**	**0.23**	**2.91**	**3.02**	**-**	**0.68**	**-**	**0.09**	**-**	**0.33**	**1.29**	**0.06**	**0.11**	**0.41**
-	**-**	**0.02**	**-**	**0.01**	**-**	**-**	**0.03**	**0.04**	**0.53**	**0.55**	**-**	**0.12**	**-**	**0.02**	**-**	**0.06**	**0.24**	**0.01**	**0.02**	**0.07**
-	**-**	**32.14**	**-**	**29.11**	**-**	**-**	**67.93**	**84.90**	**1,063.76**	**1,101.36**	**-**	**247.44**	**-**	**32.75**	**-**	**120.08**	**470.62**	**20.62**	**41.85**	**148.59**

Cyclohexene	N-octane	1-octene	N-nonane	N-dodecane	Propylene	Butyraldehyde	1-nonene	N-decane	1,2-diethylbenzene (ortho)	(1-Methylpropyl)benzene	1,3-diethylbenzene (meta)	Cyclopentene	Cyclopentane	1,2-propadiene	Indan	2-methyl-2-butene	1,2,3-trimethylbenzene	o-Tolualdehyde	N-Hexadecane	2,3,3-trimethylpentane
	3.46E-05	0.000154147	3.46E-05	0.000258018	0.0025322	6.65E-05	0.000137	0.000179								0.00010332	5.92E-05	0.000128	2.74E-05	
	1.94E-05	8.65E-05	1.94E-05	0.000144866	0.0014217	3.73E-05	7.71E-05	0.0001								5.80E-05	3.32E-05	7.21E-05	1.54E-05	
	3.42E-05	0.000152218	3.42E-05	0.000254788	0.0025005	6.56E-05	0.000136	0.000176								0.00010203	5.85E-05	0.000127	2.70E-05	
	1.70E-05	7.55E-05	1.70E-05	0.000126446	0.0012409	3.26E-05	6.73E-05	8.76E-05								5.06E-05	2.90E-05	6.30E-05	1.34E-05	
1.40E-05	2.13E-06		9.70E-07		1.39E-05			9.70E-07	2.66E-06	4.41E-07	2.04E-06	2.57E-06	4.25E-06	9.70E-07	2.83E-06	9.70E-07	2.30E-06			3.73E-06
	1.76E-07	7.94E-07	1.76E-07	1.33E-06	1.31E-05	3.42E-07	7.05E-07	9.26E-07								5.29E-07	3.09E-07	6.61E-07	1.43E-07	
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.03	**0.11**	**0.48**	**0.11**	**0.81**	**7.96**	**0.21**	**0.43**	**0.56**	**0.01**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.33**	**0.19**	**0.40**	**0.09**	**0.01**
0.01	**0.02**	**0.09**	**0.02**	**0.15**	**1.45**	**0.04**	**0.08**	**0.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.03**	**0.07**	**0.02**	**0.00**
10.23	**41.15**	**176.28**	**40.31**	**295.08**	**2,906.06**	**76.00**	**157.12**	**205.10**	**1.94**	**0.32**	**1.49**	**1.87**	**3.11**	**0.71**	**2.07**	**118.87**	**69.39**	**146.90**	**31.30**	**2.72**

0.00E+00	1.76E-07	7.94E-07	1.76E-07	1.33E-06	1.31E-05	3.42E-07	7.05E-07	9.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-07	3.09E-07	6.61E-07	1.43E-07	0.00E+00
1.40E-05	2.13E-06	0.00E+00	9.70E-07	0.00E+00	1.39E-05	0.00E+00	0.00E+00	9.70E-07	2.66E-06	4.41E-07	2.04E-06	2.57E-06	4.25E-06	9.70E-07	2.83E-06	9.70E-07	2.30E-06	0.00E+00	0.00E+00	3.73E-06
0.00E+00	1.71E-06	7.61E-06	1.71E-06	1.27E-05	1.25E-04	3.28E-06	6.78E-06	8.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.10E-06	2.92E-06	6.34E-06	1.35E-06	0.00E+00
0	8.48229E-07	3.77707E-06	8.48E-07	6.32231E-06	6.205E-05	1.63E-06	3.37E-06	4.38E-06	0	0	0	0	0	0	0	2.53146E-06	1.45E-06	3.15E-06	6.71E-07	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.03	**0.01**	**0.02**	**0.01**	**0.04**	**0.43**	**0.01**	**0.02**	**0.03**	**0.01**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.02**	**0.01**	**0.02**	**0.00**	**0.01**
0.01	**0.00**	**0.00**	**0.00**	**0.01**	**0.08**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
10.23	**3.55**	**8.89**	**2.70**	**14.89**	**156.28**	**3.83**	**7.92**	**11.02**	**1.94**	**0.32**	**1.49**	**1.87**	**3.11**	**0.71**	**2.07**	**6.67**	**5.10**	**7.41**	**1.58**	**2.72**

0	3.46236E-05	0.000154147	3.46E-05	0.000258018	0.0025322	6.65E-05	0.000137	0.000179	0	0	0	0	0	0	0	0.00010332	5.92E-05	0.000128	2.74E-05	0
0	1.94448E-05	8.65425E-05	1.94E-05	0.000144866	0.0014217	3.73E-05	7.71E-05	0.0001	0	0	0	0	0	0	0	5.80146E-05	3.32E-05	7.21E-05	1.54E-05	0
0	1.70968E-06	7.61091E-06	1.71E-06	1.27394E-05	0.000125	3.28E-06	6.78E-06	8.82E-06	0	0	0	0	0	0	0	5.1015E-06	2.92E-06	6.34E-06	1.35E-06	0
0	8.48229E-07	3.77707E-06	8.48E-07	6.32231E-06	6.205E-05	1.63E-06	3.37E-06	4.38E-06	0	0	0	0	0	0	0	2.53146E-06	1.45E-06	3.15E-06	6.71E-07	0
-	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**-**
-	**0.10**	**0.46**	**0.10**	**0.77**	**7.53**	**0.20**	**0.41**	**0.53**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.31**	**0.18**	**0.38**	**0.08**	**-**
-	**0.02**	**0.08**	**0.02**	**0.14**	**1.37**	**0.04**	**0.07**	**0.10**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.06**	**0.03**	**0.07**	**0.01**	**-**
-	**37.60**	**167.39**	**37.60**	**280.19**	**2,749.78**	**72.17**	**149.20**	**194.08**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**112.20**	**64.29**	**139.49**	**29.72**	**-**

2,3,4-trimethylpentane	2,4-dimethylhexane	4-methylheptane	3-methylheptane	Cis-2-butene	Isovaleraldehyde	2-methylheptane	1-hexene	1-Methyl-2-ethylbenzene (o-ethyltoluene)	1-Methyl-3-ethylbenzene (m-ethyltoluene)	Tolualdehyde	1-Methyl-4-ethylbenzene (p-ethyltoluene)	Cis-1,4-dimethylcyclohexane	Trans-2-butene	2-methyl-2-pentene	Cis-2-pentene	N-tridecane	N-Tetradecane	N-Pentadecane	N-heptadecane
				0.000117286	1.79E-05		0.000411052	3.63E-05	8.60E-05	0.000155	3.57E-05				0.000154147	0.000299	0.000232	9.66E-05	5.03E-06
				6.59E-05	1.00E-05		0.00023078	2.04E-05	4.83E-05	8.72E-05	2.01E-05				8.65E-05	0.000168	0.00013	5.42E-05	2.82E-06
				0.000115809	1.76E-05		0.000405904	3.58E-05	8.49E-05	0.000153	3.53E-05				0.000152218	0.000295	0.000229	9.54E-05	4.96E-06
				5.75E-05	8.76E-06		0.000201436	1.78E-05	4.22E-05	7.61E-05	1.75E-05				7.55E-05	0.000146	0.000114	4.73E-05	2.46E-06
2.30E-06	3.73E-06	2.22E-06	3.11E-06	5.94E-06		2.30E-06	2.48E-06		1.42E-06			7.05E-07	7.89E-06	3.02E-06	8.60E-06				
				6.06E-07	8.82E-08		2.13E-06	1.87E-07	4.41E-07	8.05E-07	1.87E-07				7.94E-07	1.54E-06	1.20E-06	4.96E-07	2.20E-08
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.01**	**0.00**	**0.01**	**0.38**	**0.06**	**0.00**	**1.29**	**0.11**	**0.27**	**0.49**	**0.11**	**0.00**	**0.02**	**0.01**	**0.50**	**0.94**	**0.73**	**0.30**	**0.02**
0.00	**0.00**	**0.00**	**0.00**	**0.07**	**0.01**	**0.00**	**0.24**	**0.02**	**0.05**	**0.09**	**0.02**	**0.00**	**0.00**	**0.00**	**0.09**	**0.17**	**0.13**	**0.06**	**0.00**
1.68	**2.72**	**1.62**	**2.27**	**138.47**	**20.43**	**1.68**	**471.90**	**41.51**	**99.39**	**177.56**	**40.89**	**0.51**	**5.76**	**2.20**	**182.56**	**341.71**	**265.71**	**110.49**	**5.75**

0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.06E-07	8.82E-08	0.00E+00	2.13E-06	1.87E-07	4.41E-07	8.05E-07	1.87E-07	0.00E+00	0.00E+00	0.00E+00	7.94E-07	1.54E-06	1.20E-06	4.96E-07	2.20E-08
2.30E-06	3.73E-06	2.22E-06	3.11E-06	5.94E-06	0.00E+00	2.30E-06	2.48E-06	0.00E+00	1.42E-06	0.00E+00	0.00E+00	7.05E-07	7.89E-06	3.02E-06	8.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.79E-06	8.82E-07	0.00E+00	2.03E-05	1.79E-06	4.25E-06	7.67E-06	1.76E-06	0.00E+00	0.00E+00	0.00E+00	7.61E-06	1.48E-05	1.15E-05	4.77E-06	2.48E-07
0	0	0	0	2.87373E-06	4.38E-07	0	1.00718E-05	8.9E-07	2.10762E-06	3.8E-06	8.76E-07	0	0	0	3.77707E-06	7.32E-06	5.69E-06	2.37E-06	1.23E-07
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.01**	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.07**	**0.01**	**0.02**	**0.02**	**0.01**	**0.00**	**0.02**	**0.01**	**0.04**	**0.05**	**0.04**	**0.02**	**0.00**
0.00	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**
1.68	**2.72**	**1.62**	**2.27**	**11.10**	**1.03**	**1.68**	**25.53**	**2.09**	**6.00**	**8.96**	**2.06**	**0.51**	**5.76**	**2.20**	**15.17**	**17.24**	**13.41**	**5.57**	**0.29**

0	0	0	0	0.000117286	1.79E-05	0	0.000411052	3.63E-05	8.60023E-05	0.000155	3.57E-05	0	0	0	0.000154147	0.000299	0.000232	9.66E-05	5.03E-06
0	0	0	0	6.58521E-05	1E-05	0	0.00023078	2.04E-05	4.82923E-05	8.72E-05	2.01E-05	0	0	0	8.65425E-05	0.000168	0.00013	5.42E-05	2.82E-06
0	0	0	0	5.79044E-06	8.82E-07	0	2.02952E-05	1.79E-06	4.24665E-06	7.67E-06	1.76E-06	0	0	0	7.61091E-06	1.48E-05	1.15E-05	4.77E-06	2.48E-07
0	0	0	0	2.87373E-06	4.38E-07	0	1.00718E-05	8.9E-07	2.10762E-06	3.8E-06	8.76E-07	0	0	0	3.77707E-06	7.32E-06	5.69E-06	2.37E-06	1.23E-07
-	**-**	**-**	**-**	**0.00**	**0.00**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**-**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
-	**-**	**-**	**-**	**0.35**	**0.05**	**-**	**1.22**	**0.11**	**0.26**	**0.46**	**0.11**	**-**	**-**	**-**	**0.46**	**0.89**	**0.69**	**0.29**	**0.01**
-	**-**	**-**	**-**	**0.06**	**0.01**	**-**	**0.22**	**0.02**	**0.05**	**0.08**	**0.02**	**-**	**-**	**-**	**0.08**	**0.16**	**0.13**	**0.05**	**0.00**
-	**-**	**-**	**-**	**127.37**	**19.40**	**-**	**446.37**	**39.42**	**93.40**	**168.60**	**38.82**	**-**	**-**	**-**	**167.39**	**324.47**	**252.30**	**104.92**	**5.46**

Trans-2-pentene	1-Methylcyclopentene	1-undecene	1-decene	2,3,5-trimethylhexane	1-Methyl-3-propylbenzene	N-undecane	2,6-dimethyloctane	2,4-dimethylheptane	2,5-dimethylheptane	3-methyloctane	4-methyloctane	2-methyloctane	2,2,5-trimethylhexane	Trans-2-hexene	Crotonaldehyde	T-2-Nonene	2-methyldecane	2,3-dimethyloctane
0.000200499			0.00010332			0.000247965								1.68E-05	0.000576917			
0.000112568			5.80E-05			0.000139222								9.40E-06	0.000323914			
0.000197986			0.00010203			0.000244867								1.65E-05	0.000569697			
9.83E-05			5.06E-05			0.000121519								8.21E-06	0.000282732			
7.28E-06	2.65E-07	1.25E-06		7.05E-07	1.42E-06	1.25E-06	6.17E-07	7.05E-07	1.16E-06	2.74E-06	3.46E-06	3.53E-07	2.13E-06		7.50E-06	1.51E-06	5.59E-06	4.61E-06
1.04E-06			5.29E-07			1.28E-06								8.82E-08	2.98E-06			
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.64	**0.00**	**0.00**	**0.32**	**0.00**	**0.00**	**0.78**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.05**	**1.82**	**0.00**	**0.01**	**0.01**
0.12	**0.00**	**0.00**	**0.06**	**0.00**	**0.00**	**0.14**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.33**	**0.00**	**0.00**	**0.00**
234.61	**0.19**	**0.91**	**118.16**	**0.51**	**1.04**	**284.49**	**0.45**	**0.51**	**0.84**	**2.00**	**2.53**	**0.26**	**1.55**	**19.16**	**665.25**	**1.10**	**4.08**	**3.36**

1.04E-06	0.00E+00	0.00E+00	5.29E-07	0.00E+00	0.00E+00	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.82E-08	2.98E-06	0.00E+00	0.00E+00	0.00E+00
7.28E-06	2.65E-07	1.25E-06	0.00E+00	7.05E-07	1.42E-06	1.25E-06	6.17E-07	7.05E-07	1.16E-06	2.74E-06	3.46E-06	3.53E-07	2.13E-06	0.00E+00	7.50E-06	1.51E-06	5.59E-06	4.61E-06
9.90E-06	0.00E+00	0.00E+00	5.10E-06	0.00E+00	0.00E+00	1.22E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.27E-07	2.85E-05	0.00E+00	0.00E+00	0.00E+00
4.913E-06	0	0	2.53146E-06	0	0	6.07594E-06	0	0	0	0	0	0	0	4.10611E-07	1.41366E-05	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.05	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**	**0.01**	**0.01**
0.01	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**
16.88	**0.19**	**0.91**	**5.96**	**0.51**	**1.04**	**15.22**	**0.45**	**0.51**	**0.84**	**2.00**	**2.53**	**0.26**	**1.55**	**0.97**	**38.76**	**1.10**	**4.08**	**3.36**

0.000200499	0	0	0.00010332	0	0	0.000247965	0	0	0	0	0	0	0	1.67551E-05	0.000576917	0	0	0
0.000112568	0	0	5.80146E-05	0	0	0.000139222	0	0	0	0	0	0	0	9.40272E-06	0.000323914	0	0	0
9.89931E-06	0	0	5.1015E-06	0	0	1.22434E-05	0	0	0	0	0	0	0	8.27285E-07	2.84848E-05	0	0	0
4.913E-06	0	0	2.53146E-06	0	0	6.07594E-06	0	0	0	0	0	0	0	4.10611E-07	1.41366E-05	0	0	0
0.00	-	-	**0.00**	-	-	**0.00**	-	-	-	-	-	-	-	**0.00**	**0.00**	-	-	-
0.60	-	-	**0.31**	-	-	**0.74**	-	-	-	-	-	-	-	**0.05**	**1.72**	-	-	-
0.11	-	-	**0.06**	-	-	**0.13**	-	-	-	-	-	-	-	**0.01**	**0.31**	-	-	-
217.73	-	-	**112.20**	-	-	**269.27**	-	-	-	-	-	-	-	**18.19**	**626.49**	-	-	-

Cis-2-hexene	Heptene	Dimethyl napthalene	C-1 Compounds	C-10 Compounds	C-10 Olefins	C-10 Paraffins	C-11 Compounds	C-12 Compounds	C-13 Compounds	C-14 Alkane	C-14 Compounds	C-15 Alkane	C-15 Compounds	C-16 Alkane	C-16 Compounds	C-17 Compounds	C-18 Alkane	C-18 Compounds	C-19 Compounds
	0.000244614	5.03E-05			0.00326326	0.0081573				0.000103882		9.89E-05		8.15E-05			1.11E-06		
	0.000137337	2.82E-05			0.00183215	0.0045799				5.83E-05		5.55E-05		4.58E-05			6.28E-07		
	0.000241561	4.96E-05			0.0032224	0.0080552				0.000102581		9.76E-05		8.05E-05			1.10E-06		
	0.000119876	2.46E-05			0.0015992	0.0039976				5.09E-05		4.84E-05		4.00E-05			5.51E-07		
9.70E-07			4.31E-05	2.61E-05			2.66E-05	1.63E-05	2.55E-05		3.30E-05		3.23E-05		2.59E-05	2.27E-05		1.51E-05	1.16E-05
	1.27E-06	2.65E-07			1.69E-05	4.22E-05				5.40E-07		5.07E-07		4.19E-07			1.10E-08		
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.77**	**0.16**	**0.09**	**0.05**	**10.22**	**25.56**	**0.05**	**0.03**	**0.05**	**0.33**	**0.07**	**0.31**	**0.06**	**0.26**	**0.05**	**0.05**	**0.00**	**0.03**	**0.02**
0.00	**0.14**	**0.03**	**0.02**	**0.01**	**1.87**	**4.66**	**0.01**	**0.01**	**0.01**	**0.06**	**0.01**	**0.06**	**0.01**	**0.05**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**
0.71	**279.75**	**57.49**	**31.44**	**19.08**	**3,731.96**	**9,328.93**	**19.41**	**11.93**	**18.60**	**118.80**	**24.12**	**113.05**	**23.59**	**93.25**	**18.92**	**16.59**	**1.28**	**11.06**	**8.46**

0.00E+00	1.27E-06	2.65E-07	0.00E+00	0.00E+00	1.69E-05	4.22E-05	0.00E+00	0.00E+00	0.00E+00	5.40E-07	0.00E+00	5.07E-07	0.00E+00	4.19E-07	0.00E+00	0.00E+00	1.10E-08	0.00E+00	0.00E+00
9.70E-07	0.00E+00	0.00E+00	4.31E-05	2.61E-05	0.00E+00	0.00E+00	2.66E-05	1.63E-05	2.55E-05	0.00E+00	3.30E-05	0.00E+00	3.23E-05	0.00E+00	2.59E-05	2.27E-05	0.00E+00	1.51E-05	1.16E-05
0.00E+00	1.21E-05	2.48E-06	0.00E+00	0.00E+00	1.61E-04	4.03E-04	0.00E+00	0.00E+00	0.00E+00	5.13E-06	0.00E+00	4.88E-06	0.00E+00	4.03E-06	0.00E+00	0.00E+00	5.51E-08	0.00E+00	0.00E+00
0	5.99382E-06	1.23E-06	0	0	7.996E-05	0.0001999	0	0	0	2.54524E-06	0	2.42233E-06	0	1.99794E-06	0	0	2.75578E-08	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.04**	**0.01**	**0.09**	**0.05**	**0.52**	**1.29**	**0.05**	**0.03**	**0.05**	**0.02**	**0.07**	**0.02**	**0.06**	**0.01**	**0.05**	**0.05**	**0.00**	**0.03**	**0.02**
0.00	**0.01**	**0.00**	**0.02**	**0.01**	**0.09**	**0.24**	**0.01**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**
0.71	**14.12**	**2.90**	**31.44**	**19.08**	**188.30**	**470.70**	**19.41**	**11.93**	**18.60**	**6.00**	**24.12**	**5.70**	**23.59**	**4.70**	**18.92**	**16.59**	**0.07**	**11.06**	**8.46**

0	0.000244614	5.03E-05	0	0	0.00326326	0.0081573	0	0	0	0.000103882	0	9.88553E-05	0	8.1538E-05	0	0	1.11333E-06	0	0
0	0.000137337	2.82E-05	0	0	0.00183215	0.0045799	0	0	0	5.83233E-05	0	5.55014E-05	0	4.5779E-05	0	0	6.28317E-07	0	0
0	1.2078E-05	2.48E-06	0	0	0.00016112	0.0004028	0	0	0	5.12905E-06	0	4.88048E-06	0	4.02619E-06	0	0	5.51156E-08	0	0
0	5.99382E-06	1.23E-06	0	0	7.996E-05	0.0001999	0	0	0	2.54524E-06	0	2.42233E-06	0	1.99794E-06	0	0	2.75578E-08	0	0
-	**0.00**	**0.00**	**-**	**-**	**0.00**	**0.01**	**-**	**-**	**-**	**0.00**	**-**	**0.00**	**-**	**0.00**	**-**	**-**	**0.00**	**-**	**-**
-	**0.73**	**0.15**	**-**	**-**	**9.71**	**24.27**	**-**	**-**	**-**	**0.31**	**-**	**0.29**	**-**	**0.24**	**-**	**-**	**0.00**	**-**	**-**
-	**0.13**	**0.03**	**-**	**-**	**1.77**	**4.43**	**-**	**-**	**-**	**0.06**	**-**	**0.05**	**-**	**0.04**	**-**	**-**	**0.00**	**-**	**-**
-	**265.63**	**54.58**	**-**	**-**	**3,543.66**	**8,858.24**	**-**	**-**	**-**	**112.81**	**-**	**107.35**	**-**	**88.54**	**-**	**-**	**1.21**	**-**	**-**

C-2 Compounds	C-20 Compounds	C-21 Compounds	C-22 Compounds	C-23 Compounds	C-24 Compounds	C-25 Compounds	C-26 Compounds	C-27 Compounds	C-28 Compounds	C-29 Compounds	C-3 Compounds	C-30 Compounds	C-31 Compounds	C-32 Compounds	C-33 Compounds	C-34 Compounds	C-35 Compounds	C-36 Compounds
0.000148228	6.76E-06	5.57E-06	4.38E-06	3.56E-06	3.56E-06	4.01E-06	3.26E-06	1.63E-06	2.38E-06	1.04E-06	3.87E-05	2.38E-06	2.15E-06	2.01E-06	1.63E-06	1.79E-06	1.19E-06	1.49E-06
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.30	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.08**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.05	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
108.21	**4.93**	**4.06**	**3.19**	**2.60**	**2.60**	**2.93**	**2.38**	**1.19**	**1.74**	**0.76**	**28.24**	**1.74**	**1.57**	**1.46**	**1.19**	**1.30**	**0.87**	**1.09**

0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1.48E-04	6.76E-06	5.57E-06	4.38E-06	3.56E-06	3.56E-06	4.01E-06	3.26E-06	1.63E-06	2.38E-06	1.04E-06	3.87E-05	2.38E-06	2.15E-06	2.01E-06	1.63E-06	1.79E-06	1.19E-06	1.49E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.30	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.08**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.05	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
108.21	**4.93**	**4.06**	**3.19**	**2.60**	**2.60**	**2.93**	**2.38**	**1.19**	**1.74**	**0.76**	**28.24**	**1.74**	**1.57**	**1.46**	**1.19**	**1.30**	**0.87**	**1.09**

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

C-37 Compounds	C-38 Compounds	C-39 Compounds	C-4 Compounds	C-40 Compounds	C-41 Compounds	C-42 Compounds	C-43 compounds	C-5 Compounds	C-6 Compounds	C-7 Compounds	C-8 Compounds	C-9 Compounds	Cyclopentylcyclopentane	Hexyne	Methylcyclooctane	Pentyne	T-1-Phenylbutene	Decanol
																		0.00326326
																		0.001832152
																		0.003222398
																		0.0015992
5.95E-07	3.75E-07	8.16E-07	3.03E-05	1.43E-07	3.75E-07	1.43E-07	7.72E-08	1.75E-05	3.19E-05	2.15E-05	8.39E-06	5.57E-06	4.08E-06	1.76E-07	2.92E-06	1.69E-06	2.04E-06	
																		1.69E-05
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**
0.00	**0.00**	**0.00**	**0.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.06**	**0.04**	**0.02**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**10.22**
0.00	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.87**
0.43	**0.27**	**0.60**	**22.12**	**0.10**	**0.27**	**0.10**	**0.06**	**12.79**	**23.31**	**15.67**	**6.12**	**4.06**	**2.98**	**0.13**	**2.13**	**1.23**	**1.49**	**3,731.96**
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-05
5.95E-07	3.75E-07	8.16E-07	3.03E-05	1.43E-07	3.75E-07	1.43E-07	7.72E-08	1.75E-05	3.19E-05	2.15E-05	8.39E-06	5.57E-06	4.08E-06	1.76E-07	2.92E-06	1.69E-06	2.04E-06	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-04
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.996E-05
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.00**	**0.00**	**0.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.06**	**0.04**	**0.02**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.52**
0.00	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**
0.43	**0.27**	**0.60**	**22.12**	**0.10**	**0.27**	**0.10**	**0.06**	**12.79**	**23.31**	**15.67**	**6.12**	**4.06**	**2.98**	**0.13**	**2.13**	**1.23**	**1.49**	**188.30**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00326326
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.001832152
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00016112
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.996E-05
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.00**
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**9.71**
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.77**
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3,543.66**

Dodecanol
0.0016313
0.0009159
0.0016109
0.0007995
8.43E-06
0.00
5.11
0.93
1,865.66

8.43E-06
0.00E+00
8.05E-05
3.997E-05
0.00
0.26
0.05
94.13

0.0016313
0.0009159
8.055E-05
3.997E-05
0.00
4.85
0.89
1,771.52

ATTACHMENT B - March Air Reserve Base - D1 Project - No Night Operations Scenario - Speciated Organic Gases and Hazardous Air Pollutants - April 2022

Combined on and off-site

Mode	Formaldehyde (IRIS, CAA)	Methyl alcohol (IRIS, CAA)	Benzene (IRIS, CAA)	C-5 Benzene + C-4 Aroald	C-4 Benzene + C-3 Aroald	Acetaldehyde (IRIS, CAA)	Naphthalene (IRIS, CAA)	O-xylene (IRIS, CAA)	Isopropyl benzene (cumene) (IRIS, CAA)	Ethylbenzene (IRIS, CAA)	Styrene (IRIS, CAA)	M & P-xylene (IRIS, CAA)	1,3-butadiene (IRIS, CAA)	Acrolein (IRIS, CAA)	M-xylene (IRIS, CAA)	Toluene (IRIS, CAA)	Phenol (carbolic acid) (IRIS, CAA)	N-hexane (IRIS, CAA)	2,2,4-trimethyl pentane (IRIS, CAA)	Propionaldehyde (CAA)	Acetone (IRIS)
Departure Below Mixing Height	0.006875	0.0010081	0.0009388	0.000181	0.000366	0.00238586	0.000302	9.27E-05	1.68E-06	9.72E-05	0.000173	0.000157	0.0009422	0.00136774		0.000359	0.000405			0.000406	0.000206
Arrival Below Mixing Height	0.00386	0.000566	0.0005271	0.000102	0.000206	0.00133954	0.00017	5.21E-05	9.37E-07	5.46E-05	9.69E-05	8.84E-05	0.000529	0.00076791		0.000201	0.000228			0.000228	0.000116
DepartureTaxi	0.0067889	0.0009955	0.0009271	0.000179	0.000362	0.00235599	0.000298	9.15E-05	1.65E-06	9.60E-05	0.00017	0.000156	0.0009304	0.00135062		0.000354	0.0004			0.000401	0.000203
ArrivalTaxi	0.0033692	0.000494	0.0004601	8.87E-05	0.00018	0.00116922	0.000148	4.54E-05	8.16E-07	4.76E-05	8.46E-05	7.72E-05	0.0004617	0.00067028		0.000176	0.000199			0.000199	0.000101
Ground Service Equipment	4.69E-05		1.24E-05			1.59E-05		6.45E-06		4.75E-06					1.32E-05	2.11E-05		1.08E-05	1.06E-05	9.65E-06	
Aircraft Auxiliary Power Units	2.84E-05	4.17E-06	3.88E-06	7.50E-07	1.51E-06	9.87E-06	1.25E-06	3.86E-07	1.10E-08	3.97E-07	7.17E-07	6.50E-07	3.89E-06	5.65E-06		1.48E-06	1.68E-06			1.68E-06	8.49E-07
DAILY TOTAL (ST)	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
DAILY TOTAL (LBS)	**21.62**	**3.16**	**2.96**	**0.57**	**1.15**	**7.50**	**0.95**	**0.30**	**0.01**	**0.31**	**0.54**	**0.49**	**2.95**	**4.28**	**0.03**	**1.16**	**1.27**	**0.02**	**0.02**	**1.29**	**0.65**
ANNUAL TOTAL (ST)	**3.95**	**0.58**	**0.54**	**0.10**	**0.21**	**1.37**	**0.17**	**0.06**	**0.00**	**0.06**	**0.10**	**0.09**	**0.54**	**0.78**	**0.00**	**0.21**	**0.23**	**0.00**	**0.00**	**0.24**	**0.12**
ANNUAL TOTAL (LBS)	**7,891.50**	**1,152.10**	**1,082.01**	**206.81**	**418.71**	**2,738.32**	**345.31**	**110.66**	**1.92**	**114.53**	**197.24**	**180.00**	**1,076.78**	**1,563.15**	**9.62**	**425.19**	**463.40**	**7.92**	**7.77**	**471.07**	**235.53**

On-Site

Mode	Formaldehyde (IRIS, CAA)	Methyl alcohol (IRIS, CAA)	Benzene (IRIS, CAA)	C-5 Benzene + C-4 Aroald	C-4 Benzene + C-3 Aroald	Acetaldehyde (IRIS, CAA)	Naphthalene (IRIS, CAA)	O-xylene (IRIS, CAA)	Isopropyl benzene (cumene) (IRIS, CAA)	Ethylbenzene (IRIS, CAA)	Styrene (IRIS, CAA)	M & P-xylene (IRIS, CAA)	1,3-butadiene (IRIS, CAA)	Acrolein (IRIS, CAA)	M-xylene (IRIS, CAA)	Toluene (IRIS, CAA)	Phenol (carbolic acid) (IRIS, CAA)	N-hexane (IRIS, CAA)	2,2,4-trimethyl pentane (IRIS, CAA)	Propionaldehyde (CAA)	Acetone (IRIS)
Aircraft Auxiliary Power Units	2.84E-05	4.17E-06	3.88E-06	7.50E-07	1.51E-06	9.87E-06	1.25E-06	3.86E-07	1.10E-08	3.97E-07	7.17E-07	6.50E-07	3.89E-06	5.65E-06	0.00E+00	1.48E-06	1.68E-06	0.00E+00	0.00E+00	1.68E-06	8.49E-07
Ground Service Equipment	4.69E-05	0.00E+00	1.24E-05	0.00E+00	0.00E+00	1.59E-05	0.00E+00	6.45E-06	0.00E+00	4.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E-05	2.11E-05	0.00E+00	1.08E-05	1.06E-05	9.65E-06	0.00E+00
Taxi out - 5% Assigned **	3.39E-04	4.98E-05	4.64E-05	8.93E-06	1.81E-05	1.18E-04	1.49E-05	4.58E-06	8.27E-08	4.80E-06	8.52E-06	7.78E-06	4.65E-05	6.75E-05	0.00E+00	1.77E-05	2.00E-05	0.00E+00	0.00E+00	2.00E-05	1.02E-05
Taxi in - 5% Assigned **	0.0001685	2.47E-05	2.3E-05	4.43E-06	8.98E-06	5.8461E-05	7.4E-06	2.27E-06	4.08E-08	2.38E-06	4.23E-06	3.86E-06	2.309E-05	3.3514E-05	0	8.79E-06	9.94E-06	0	0	9.95E-06	5.05E-06
DAILY ON-SITE TOTAL (ST)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
DAILY ON-SITE TOTAL (LBS)	**1.17**	**0.16**	**0.17**	**0.03**	**0.06**	**0.40**	**0.05**	**0.03**	**0.00**	**0.02**	**0.03**	**0.02**	**0.15**	**0.21**	**0.03**	**0.10**	**0.06**	**0.02**	**0.02**	**0.08**	**0.03**
ANNUAL ON-SITE TOTAL (ST)	**0.21**	**0.03**	**0.03**	**0.01**	**0.01**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.04**	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.02**	**0.01**
ANNUAL ON-SITE TOTAL (LBS)	**425.75**	**57.41**	**62.52**	**10.31**	**20.86**	**147.44**	**17.20**	**9.99**	**0.10**	**9.00**	**9.83**	**8.97**	**53.65**	**77.89**	**9.62**	**35.83**	**23.09**	**7.92**	**7.77**	**30.16**	**11.73**

Off-Site

Mode	Formaldehyde (IRIS, CAA)	Methyl alcohol (IRIS, CAA)	Benzene (IRIS, CAA)	C-5 Benzene + C-4 Aroald	C-4 Benzene + C-3 Aroald	Acetaldehyde (IRIS, CAA)	Naphthalene (IRIS, CAA)	O-xylene (IRIS, CAA)	Isopropyl benzene (cumene) (IRIS, CAA)	Ethylbenzene (IRIS, CAA)	Styrene (IRIS, CAA)	M & P-xylene (IRIS, CAA)	1,3-butadiene (IRIS, CAA)	Acrolein (IRIS, CAA)	M-xylene (IRIS, CAA)	Toluene (IRIS, CAA)	Phenol (carbolic acid) (IRIS, CAA)	N-hexane (IRIS, CAA)	2,2,4-trimethyl pentane (IRIS, CAA)	Propionaldehyde (CAA)	Acetone (IRIS)
Departure Below Mixing Height	0.006875	0.0010081	0.0009388	0.000181	0.000366	0.00238586	0.000302	9.27E-05	1.68E-06	9.72E-05	0.000173	0.000157	0.0009422	0.00136774	0	0.000359	0.000405	0	0	0.000406	0.000206
Arrival Below Mixing Height	0.00386	0.000566	0.0005271	0.000102	0.000206	0.00133954	0.00017	5.21E-05	9.37E-07	5.46E-05	9.69E-05	8.84E-05	0.000529	0.00076791	0	0.000201	0.000228	0	0	0.000228	0.000116
Taxi out - 5% subtracted out **	0.0003394	4.977E-05	4.635E-05	8.93E-06	1.81E-05	0.0001178	1.49E-05	4.58E-06	8.27E-08	4.8E-06	8.52E-06	7.78E-06	4.652E-05	6.7531E-05	0	1.77E-05	2E-05	0	0	2E-05	1.02E-05
Taxi in - 5% subtracted out **	0.0001685	2.47E-05	2.3E-05	4.43E-06	8.98E-06	5.8461E-05	7.4E-06	2.27E-06	4.08E-08	2.38E-06	4.23E-06	3.86E-06	2.309E-05	3.3514E-05	0	8.79E-06	9.94E-06	0	0	9.95E-06	5.05E-06
DAILY ON-SITE TOTAL (ST)	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**0.00**	**0.00**	**-**	**-**	**0.00**	**0.00**
DAILY ON-SITE TOTAL (LBS)	**20.45**	**3.00**	**2.79**	**0.54**	**1.09**	**7.10**	**0.90**	**0.28**	**0.00**	**0.29**	**0.51**	**0.47**	**2.80**	**4.07**	**-**	**1.07**	**1.21**	**-**	**-**	**1.21**	**0.61**
ANNUAL ON-SITE TOTAL (ST)	**3.73**	**0.55**	**0.51**	**0.10**	**0.20**	**1.30**	**0.16**	**0.05**	**0.00**	**0.05**	**0.09**	**0.09**	**0.51**	**0.74**	**-**	**0.19**	**0.22**	**-**	**-**	**0.22**	**0.11**
ANNUAL ON-SITE TOTAL (LBS)	**7,465.76**	**1,094.70**	**1,019.49**	**196.51**	**397.85**	**2,590.87**	**328.10**	**100.67**	**1.82**	**105.53**	**187.41**	**171.03**	**1,023.12**	**1,485.26**	**-**	**389.36**	**440.31**	**-**	**-**	**440.91**	**223.80**

* Speciated Organic Gasses and Hazardous Air Pollutant information is not available for aircraft engine startup
** Sub totals above for on-site and off-site assume that 5% of taxiing aircraft emissions occur within the project boundary and 95% occur outside of the project boundary
** For off-site sub totals, taxi emissions are included in the "departure below mixing height" and "arrival below mixing height". Therefore, 5% of taxi emissions are subtracted from the off-site sub total to reflect 95% of all taxi emissions occuring off-site.
* Blank cells reflect data not available

2-methylnaphthalene (IRIS)	Benzaldehyde (IRIS)	N-heptane (IRIS)	Hexaldehyde	Methane	Ethane	Ethylene	Acetylene	Propane	1-propyne	Isobutane	2,2-dimethyl butane	Isopentane	Isoprene	2-methyl-2-propenal (methacrolein)	Methylglyoxal	2,3-dimethyl butane	1-Methylnaphthalene	1,2,4-trimethyl benzene (1,3,4-trimethyl benzene)	3-methylpentane	Methylcyclopentane	N-propylbenzene	N-butylbenzene	p-Tolualdehyde	N-butane
0.000115	0.000262	3.57E-05			0.000291	0.008635	0.0022	4.36E-05						0.00024	0.000839		0.000138	0.000195			2.96E-05		2.68E-05	
6.46E-05	0.000147	2.01E-05			0.000163	0.004848	0.001235	2.45E-05						0.000135	0.000471		7.74E-05	0.00011			1.66E-05		1.50E-05	
0.000114	0.000259	3.53E-05			0.000287	0.008527	0.002172	4.30E-05						0.000237	0.000829		0.000136	0.000193			2.92E-05		2.65E-05	
5.64E-05	0.000129	1.75E-05			0.000143	0.004232	0.001078	2.14E-05						0.000117	0.000411		6.76E-05	9.58E-05			1.45E-05		1.31E-05	
	3.00E-06	5.17E-06	4.41E-07	1.74E-05	4.89E-06	3.08E-05	1.89E-05		1.70E-06	2.43E-05	1.55E-06	7.83E-05	7.05E-07			6.94E-06		1.02E-05	1.09E-05	7.87E-06	2.19E-06	1.49E-06		0.000159
4.74E-07	1.08E-06	1.43E-07			1.20E-06	3.57E-05	9.09E-06	1.76E-07						9.92E-07	3.47E-06		5.73E-07	8.05E-07			1.21E-07		1.10E-07	
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.36	**0.83**	**0.12**	**0.00**	**0.03**	**0.92**	**27.10**	**6.93**	**0.14**	**0.00**	**0.05**	**0.00**	**0.16**	**0.00**	**0.75**	**2.63**	**0.01**	**0.43**	**0.63**	**0.02**	**0.02**	**0.10**	**0.00**	**0.08**	**0.32**
0.07	**0.15**	**0.02**	**0.00**	**0.01**	**0.17**	**4.95**	**1.26**	**0.02**	**0.00**	**0.01**	**0.00**	**0.03**	**0.00**	**0.14**	**0.48**	**0.00**	**0.08**	**0.12**	**0.00**	**0.00**	**0.02**	**0.00**	**0.02**	**0.06**
131.49	**302.18**	**44.63**	**0.32**	**12.67**	**336.12**	**9,891.02**	**2,527.97**	**49.79**	**1.24**	**17.75**	**1.13**	**57.12**	**0.51**	**273.82**	**959.34**	**5.07**	**157.65**	**230.85**	**7.97**	**5.75**	**35.43**	**1.09**	**30.63**	**116.01**

4.74E-07	1.08E-06	1.43E-07	0.00E+00	0.00E+00	1.20E-06	3.57E-05	9.09E-06	1.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.92E-07	3.47E-06	0.00E+00	5.73E-07	8.05E-07	0.00E+00	0.00E+00	1.21E-07	0.00E+00	1.10E-07	0.00E+00
0.00E+00	3.00E-06	5.17E-06	4.41E-07	1.74E-05	4.89E-06	3.08E-05	1.89E-05	0.00E+00	1.70E-06	2.43E-05	1.55E-06	7.83E-05	7.05E-07	0.00E+00	0.00E+00	6.94E-06	0.00E+00	1.02E-05	1.09E-05	7.87E-06	2.19E-06	1.49E-06	0.00E+00	1.59E-04
5.68E-06	1.30E-05	1.76E-06	0.00E+00	0.00E+00	1.44E-05	4.26E-04	1.09E-04	2.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-05	4.14E-05	0.00E+00	6.81E-06	9.65E-06	0.00E+00	0.00E+00	1.46E-06	0.00E+00	1.32E-06	0.00E+00
2.82E-06	6.43E-06	8.76E-07	0	0	7.13E-06	0.000212	5.39E-05	1.07E-06	0	0	0	0	0	5.87E-06	2.06E-05	0	3.38E-06	4.79E-06	0	0	7.25E-07	0	6.57E-07	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.02	**0.05**	**0.02**	**0.00**	**0.03**	**0.06**	**1.41**	**0.38**	**0.01**	**0.00**	**0.05**	**0.00**	**0.16**	**0.00**	**0.04**	**0.13**	**0.01**	**0.02**	**0.05**	**0.02**	**0.02**	**0.01**	**0.00**	**0.00**	**0.32**
0.00	**0.01**	**0.00**	**0.00**	**0.01**	**0.01**	**0.26**	**0.07**	**0.00**	**0.00**	**0.01**	**0.00**	**0.03**	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**
6.55	**17.13**	**5.81**	**0.32**	**12.67**	**20.14**	**514.24**	**139.05**	**2.48**	**1.24**	**17.75**	**1.13**	**57.12**	**0.51**	**13.65**	**47.80**	**5.07**	**7.86**	**18.58**	**7.97**	**5.75**	**3.29**	**1.09**	**1.53**	**116.01**

0.000115	0.000262	3.57E-05	0	0	0.000291	0.008635	0.0022	4.36E-05	0	0	0	0	0	0.00024	0.000839	0	0.000138	0.000195	0	0	2.96E-05	0	2.68E-05	0
6.46E-05	0.000147	2.01E-05	0	0	0.000163	0.004848	0.001235	2.45E-05	0	0	0	0	0	0.000135	0.000471	0	7.74E-05	0.00011	0	0	1.66E-05	0	1.5E-05	0
5.68E-06	1.3E-05	1.76E-06	0	0	1.44E-05	0.000426	0.000109	2.15E-06	0	0	0	0	0	1.18E-05	4.14E-05	0	6.81E-06	9.65E-06	0	0	1.46E-06	0	1.32E-06	0
2.82E-06	6.43E-06	8.76E-07	0	0	7.13E-06	0.000212	5.39E-05	1.07E-06	0	0	0	0	0	5.87E-06	2.06E-05	0	3.38E-06	4.79E-06	0	0	7.25E-07	0	6.57E-07	0
0.00	**0.00**	**0.00**	-	-	**0.00**	**0.01**	**0.00**	**0.00**	-	-	-	-	-	**0.00**	**0.00**	-	**0.00**	**0.00**	-	-	**0.00**	-	**0.00**	-
0.34	**0.78**	**0.11**	-	-	**0.87**	**25.69**	**6.55**	**0.13**	-	-	-	-	-	**0.71**	**2.50**	-	**0.41**	**0.58**	-	-	**0.09**	-	**0.08**	-
0.06	**0.14**	**0.02**	-	-	**0.16**	**4.69**	**1.19**	**0.02**	-	-	-	-	-	**0.13**	**0.46**	-	**0.07**	**0.11**	-	-	**0.02**	-	**0.01**	-
124.94	**285.05**	**38.82**	-	-	**315.98**	**9,376.78**	**2,388.93**	**47.31**	-	-	-	-	-	**260.17**	**911.54**	-	**149.80**	**212.27**	-	-	**32.14**	-	**29.11**	-

4-Phenyl-1-butene	3-methyl-1-butene	2-methyl-1-butene	1-butene	Glyoxal	2,4,4-trimethyl-1-pentene	2-methylpentane	2,4-dimethylpentane	1,3,5-trimethylbenzene	Methylcyclohexane	N-pentane	1-pentene	2-methyl-1-pentene	4-methyl-1-pentene	Valeraldehyde	Cyclohexene	N-octane	1-octene	N-nonane	N-dodecane	Propylene	Butyraldehyde	1-nonene	N-decane	1,2-diethylbenzene (ortho)
	6.26E-05	7.82E-05	0.00098	0.001014		0.000228		3.02E-05		0.000111	0.000433	1.90E-05	3.85E-05	0.000137		3.46E-05	0.000154	3.46E-05	0.000258	0.002532	6.65E-05	0.000137	0.000179	
	3.51E-05	4.39E-05	0.00055	0.000569		0.000128		1.69E-05		6.21E-05	0.000243	1.07E-05	2.16E-05	7.68E-05		1.94E-05	8.65E-05	1.94E-05	0.000145	0.001422	3.73E-05	7.71E-05	0.0001	
	6.18E-05	7.72E-05	0.000967	0.001002		0.000225		2.98E-05		0.000109	0.000428	1.88E-05	3.81E-05	0.000135		3.42E-05	0.000152	3.42E-05	0.000255	0.0025	6.56E-05	0.000136	0.000176	
	3.07E-05	3.83E-05	0.00048	0.000497		0.000112		1.48E-05		5.42E-05	0.000212	9.30E-06	1.89E-05	6.71E-05		1.70E-05	7.55E-05	1.70E-05	0.000126	0.001241	3.26E-05	6.73E-05	8.76E-05	
1.84E-06	9.92E-07		7.87E-06		1.23E-05	1.99E-05	4.54E-06	8.58E-06	1.84E-06	3.44E-05	2.91E-06				1.12E-05	1.70E-06		7.83E-07		1.11E-05			7.83E-07	2.13E-06
	2.54E-07	3.20E-07	4.05E-06	4.19E-06		9.37E-07		1.21E-07		4.52E-07	1.80E-06	7.72E-08	1.54E-07	5.62E-07		1.43E-07	6.39E-07	1.43E-07	1.07E-06	1.05E-05	2.76E-07	5.73E-07	7.39E-07	
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.20**	**0.24**	**3.08**	**3.18**	**0.02**	**0.75**	**0.01**	**0.11**	**0.00**	**0.42**	**1.36**	**0.06**	**0.12**	**0.43**	**0.02**	**0.11**	**0.48**	**0.11**	**0.81**	**7.95**	**0.21**	**0.43**	**0.56**	**0.00**
0.00	**0.04**	**0.04**	**0.56**	**0.58**	**0.00**	**0.14**	**0.00**	**0.02**	**0.00**	**0.08**	**0.25**	**0.01**	**0.02**	**0.08**	**0.00**	**0.02**	**0.09**	**0.02**	**0.15**	**1.45**	**0.04**	**0.08**	**0.10**	**0.00**
1.34	**72.21**	**89.35**	**1,125.29**	**1,159.12**	**8.95**	**274.95**	**3.32**	**40.73**	**1.34**	**151.52**	**497.43**	**21.70**	**44.04**	**156.37**	**8.18**	**40.81**	**176.17**	**40.15**	**294.89**	**2,902.11**	**75.95**	**157.03**	**204.83**	**1.55**
0.00E+00	2.54E-07	3.20E-07	4.05E-06	4.19E-06	0.00E+00	9.37E-07	0.00E+00	1.21E-07	0.00E+00	4.52E-07	1.80E-06	7.72E-08	1.54E-07	5.62E-07	0.00E+00	1.43E-07	6.39E-07	1.43E-07	1.07E-06	1.05E-05	2.76E-07	5.73E-07	7.39E-07	0.00E+00
1.84E-06	9.92E-07	0.00E+00	7.87E-06	0.00E+00	1.23E-05	1.99E-05	4.54E-06	8.58E-06	1.84E-06	3.44E-05	2.91E-06	0.00E+00	0.00E+00	0.00E+00	1.12E-05	1.70E-06	0.00E+00	7.83E-07	0.00E+00	1.11E-05	0.00E+00	0.00E+00	7.83E-07	2.13E-06
0.00E+00	3.09E-06	3.86E-06	4.84E-05	5.01E-05	0.00E+00	1.13E-05	0.00E+00	1.49E-06	0.00E+00	5.46E-06	2.14E-05	9.38E-07	1.90E-06	6.76E-06	0.00E+00	1.71E-06	7.61E-06	1.71E-06	1.27E-05	1.25E-04	3.28E-06	6.78E-06	8.82E-06	0.00E+00
0	1.53E-06	1.92E-06	2.4E-05	2.49E-05	0	5.58E-06	0	7.39E-07	0	2.71E-06	1.06E-05	4.65E-07	9.44E-07	3.35E-06	0	8.48E-07	3.78E-06	8.48E-07	6.32E-06	6.2E-05	1.63E-06	3.37E-06	4.38E-06	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.01**	**0.01**	**0.17**	**0.16**	**0.02**	**0.08**	**0.01**	**0.02**	**0.00**	**0.09**	**0.07**	**0.00**	**0.01**	**0.02**	**0.02**	**0.01**	**0.02**	**0.01**	**0.04**	**0.42**	**0.01**	**0.02**	**0.03**	**0.00**
0.00	**0.00**	**0.00**	**0.03**	**0.03**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.08**	**0.00**	**0.00**	**0.01**	**0.00**
1.34	**4.28**	**4.45**	**61.53**	**57.75**	**8.95**	**27.51**	**3.32**	**7.98**	**1.34**	**31.44**	**26.81**	**1.08**	**2.19**	**7.79**	**8.18**	**3.21**	**8.78**	**2.54**	**14.70**	**152.33**	**3.79**	**7.83**	**10.75**	**1.55**
0	6.26E-05	7.82E-05	0.00098	0.001014	0	0.000228	0	3.02E-05	0	0.000111	0.000433	1.9E-05	3.85E-05	0.000137	0	3.46E-05	0.000154	3.46E-05	0.000258	0.002532	6.65E-05	0.000137	0.000179	0
0	3.51E-05	4.39E-05	0.00055	0.000569	0	0.000128	0	1.69E-05	0	6.21E-05	0.000243	1.07E-05	2.16E-05	7.68E-05	0	1.94E-05	8.65E-05	1.94E-05	0.000145	0.001422	3.73E-05	7.71E-05	0.0001	0
0	3.09E-06	3.86E-06	4.84E-05	5.01E-05	0	1.13E-05	0	1.49E-06	0	5.46E-06	2.14E-05	9.38E-07	1.9E-06	6.76E-06	0	1.71E-06	7.61E-06	1.71E-06	1.27E-05	0.000125	3.28E-06	6.78E-06	8.82E-06	0
0	1.53E-06	1.92E-06	2.4E-05	2.49E-05	0	5.58E-06	0	7.39E-07	0	2.71E-06	1.06E-05	4.65E-07	9.44E-07	3.35E-06	0	8.48E-07	3.78E-06	8.48E-07	6.32E-06	6.2E-05	1.63E-06	3.37E-06	4.38E-06	0
-	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**0.00**	**-**	**0.00**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**
-	**0.19**	**0.23**	**2.91**	**3.02**	**-**	**0.68**	**-**	**0.09**	**-**	**0.33**	**1.29**	**0.06**	**0.11**	**0.41**	**-**	**0.10**	**0.46**	**0.10**	**0.77**	**7.53**	**0.20**	**0.41**	**0.53**	**-**
-	**0.03**	**0.04**	**0.53**	**0.55**	**-**	**0.12**	**-**	**0.02**	**-**	**0.06**	**0.24**	**0.01**	**0.02**	**0.07**	**-**	**0.02**	**0.08**	**0.02**	**0.14**	**1.37**	**0.04**	**0.07**	**0.10**	**-**
-	**67.93**	**84.90**	**1,063.76**	**1,101.36**	**-**	**247.44**	**-**	**32.75**	**-**	**120.08**	**470.62**	**20.62**	**41.85**	**148.59**	**-**	**37.60**	**167.39**	**37.60**	**280.19**	**2,749.78**	**72.17**	**149.20**	**194.08**	**-**

(1-Methylpropyl)benzene	1,3-diethylbenzene (meta)	Cyclopentene	Cyclopentane	1,2-propadiene	Indan	2-methyl-2-butene	1,2,3-trimethylbenzene	o-Tolualdehyde	N-Hexadecane	2,3,3-trimethylpentane	2,3,4-trimethylpentane	2,4-dimethylhexane	4-methylheptane	3-methylheptane	Cis-2-butene	Isovaleraldehyde	2-methylheptane	1-hexene	1-Methyl-2-ethylbenzene (o-ethyltoluene)	1-Methyl-3-ethylbenzene (m-ethyltoluene)	Tolualdehyde	1-Methyl-4-ethylbenzene (p-ethyltoluene)	Cis-1,4-dimethylcyclohexane	Trans-2-butene
						0.000103	5.92E-05	0.000128	2.74E-05						0.000117	1.79E-05		0.000411	3.63E-05	8.60E-05	0.000155	3.57E-05		
						5.80E-05	3.32E-05	7.21E-05	1.54E-05						6.59E-05	1.00E-05		0.000231	2.04E-05	4.83E-05	8.72E-05	2.01E-05		
						0.000102	5.85E-05	0.000127	2.70E-05						0.000116	1.76E-05		0.000406	3.58E-05	8.49E-05	0.000153	3.53E-05		
						5.06E-05	2.90E-05	6.30E-05	1.34E-05						5.75E-05	8.76E-06		0.000201	1.78E-05	4.22E-05	7.61E-05	1.75E-05		
3.53E-07	1.63E-06	2.05E-06	3.41E-06	7.83E-07	2.27E-06	7.83E-07	1.84E-06			2.98E-06	1.84E-06	2.98E-06	1.77E-06	2.48E-06	4.75E-06		1.84E-06	1.98E-06		1.14E-06			5.62E-07	6.31E-06
						4.30E-07	2.43E-07	5.29E-07	1.10E-07						4.85E-07	7.72E-08		1.70E-06	1.54E-07	3.53E-07	6.39E-07	1.43E-07		
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.33**	**0.19**	**0.40**	**0.09**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.38**	**0.06**	**0.00**	**1.29**	**0.11**	**0.27**	**0.49**	**0.11**	**0.00**	**0.01**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.03**	**0.07**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.01**	**0.00**	**0.24**	**0.02**	**0.05**	**0.09**	**0.02**	**0.00**	**0.00**
0.26	**1.19**	**1.50**	**2.49**	**0.57**	**1.66**	**118.66**	**69.00**	**146.81**	**31.28**	**2.17**	**1.34**	**2.17**	**1.30**	**1.81**	**137.51**	**20.42**	**1.34**	**471.22**	**41.49**	**99.12**	**177.44**	**40.85**	**0.41**	**4.60**

0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.30E-07	2.43E-07	5.29E-07	1.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.85E-07	7.72E-08	0.00E+00	1.70E-06	1.54E-07	3.53E-07	6.39E-07	1.43E-07	0.00E+00	0.00E+00
3.53E-07	1.63E-06	2.05E-06	3.41E-06	7.83E-07	2.27E-06	7.83E-07	1.84E-06	0.00E+00	0.00E+00	2.98E-06	1.84E-06	2.98E-06	1.77E-06	2.48E-06	4.75E-06	0.00E+00	1.84E-06	1.98E-06	0.00E+00	1.14E-06	0.00E+00	0.00E+00	5.62E-07	6.31E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.10E-06	2.92E-06	6.34E-06	1.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.79E-06	8.82E-07	0.00E+00	2.03E-05	1.79E-06	4.25E-06	7.67E-06	1.76E-06	0.00E+00	0.00E+00
0	0	0	0	0	0	2.53E-06	1.45E-06	3.15E-06	6.71E-07	0	0	0	0	0	2.87E-06	4.38E-07	0	1.01E-05	8.9E-07	2.11E-06	3.8E-06	8.76E-07	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.02**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.07**	**0.01**	**0.02**	**0.02**	**0.01**	**0.00**	**0.01**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.26	**1.19**	**1.50**	**2.49**	**0.57**	**1.66**	**6.46**	**4.71**	**7.31**	**1.56**	**2.17**	**1.34**	**2.17**	**1.30**	**1.81**	**10.15**	**1.02**	**1.34**	**24.86**	**2.07**	**5.72**	**8.84**	**2.03**	**0.41**	**4.60**

0	0	0	0	0	0	0.000103	5.92E-05	0.000128	2.74E-05	0	0	0	0	0	0.000117	1.79E-05	0	0.000411	3.63E-05	8.6E-05	0.000155	3.57E-05	0	0
0	0	0	0	0	0	5.8E-05	3.32E-05	7.21E-05	1.54E-05	0	0	0	0	0	6.59E-05	1E-05	0	0.000231	2.04E-05	4.83E-05	8.72E-05	2.01E-05	0	0
0	0	0	0	0	0	5.1E-06	2.92E-06	6.34E-06	1.35E-06	0	0	0	0	0	5.79E-06	8.82E-07	0	2.03E-05	1.79E-06	4.25E-06	7.67E-06	1.76E-06	0	0
0	0	0	0	0	0	2.53E-06	1.45E-06	3.15E-06	6.71E-07	0	0	0	0	0	2.87E-06	4.38E-07	0	1.01E-05	8.9E-07	2.11E-06	3.8E-06	8.76E-07	0	0
-	**-**	**-**	**-**	**-**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**-**	**-**	**-**	**-**	**0.00**	**0.00**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**-**
-	**-**	**-**	**-**	**-**	**-**	**0.31**	**0.18**	**0.38**	**0.08**	**-**	**-**	**-**	**-**	**-**	**0.35**	**0.05**	**-**	**1.22**	**0.11**	**0.26**	**0.46**	**0.11**	**-**	**-**
-	**-**	**-**	**-**	**-**	**-**	**0.06**	**0.03**	**0.07**	**0.01**	**-**	**-**	**-**	**-**	**-**	**0.06**	**0.01**	**-**	**0.22**	**0.02**	**0.05**	**0.08**	**0.02**	**-**	**-**
-	**-**	**-**	**-**	**-**	**-**	**112.20**	**64.29**	**139.49**	**29.72**	**-**	**-**	**-**	**-**	**-**	**127.37**	**19.40**	**-**	**446.37**	**39.42**	**93.40**	**168.60**	**38.82**	**-**	**-**

2-methyl-2-pentene	Cis-2-pentene	N-tridecane	N-Tetradecane	N-Pentadecane	N-heptadecane	Trans-2-pentene	1-Methylcyclopentene	1-undecene	1-decene	2,3,5-trimethylhexane	1-Methyl-3-propylbenzene	N-undecane	2,6-dimethyloctane	2,4-dimethylheptane	2,5-dimethylheptane	3-methyloctane	4-methyloctane	2-methyloctane	2,2,5-trimethylhexane	Trans-2-hexene	Crotonaldehyde	T-2-Nonene	2-methyldecane	2,3-dimethyloctane
	0.000154	0.000299	0.000232	9.66E-05	5.03E-06	0.0002			0.000103			0.000248								1.68E-05	0.000577			
	8.65E-05	0.000168	0.00013	5.42E-05	2.82E-06	0.000113			5.80E-05			0.000139								9.40E-06	0.000324			
	0.000152	0.000295	0.000229	9.54E-05	4.96E-06	0.000198			0.000102			0.000245								1.65E-05	0.00057			
	7.55E-05	0.000146	0.000114	4.73E-05	2.46E-06	9.83E-05			5.06E-05			0.000122								8.21E-06	0.000283			
2.41E-06	6.88E-06					5.81E-06	2.09E-07	9.92E-07		5.62E-07	1.14E-06	9.92E-07	4.96E-07	5.62E-07	9.26E-07	2.19E-06	2.77E-06	2.87E-07	1.70E-06		5.50E-06	1.20E-06	4.46E-06	3.68E-06
	6.39E-07	1.23E-06	9.59E-07	3.97E-07	2.20E-08	8.27E-07			4.30E-07			1.03E-06								6.61E-08	2.38E-06			
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.50**	**0.94**	**0.73**	**0.30**	**0.02**	**0.64**	**0.00**	**0.00**	**0.32**	**0.00**	**0.00**	**0.78**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.05**	**1.82**	**0.00**	**0.01**	**0.01**
0.00	**0.09**	**0.17**	**0.13**	**0.06**	**0.00**	**0.12**	**0.00**	**0.00**	**0.06**	**0.00**	**0.00**	**0.14**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.33**	**0.00**	**0.00**	**0.00**
1.76	**181.19**	**341.49**	**265.53**	**110.42**	**5.75**	**233.38**	**0.15**	**0.72**	**118.09**	**0.41**	**0.83**	**284.12**	**0.36**	**0.41**	**0.68**	**1.60**	**2.02**	**0.21**	**1.24**	**19.14**	**663.36**	**0.88**	**3.26**	**2.69**

0.00E+00	6.39E-07	1.23E-06	9.59E-07	3.97E-07	2.20E-08	8.27E-07	0.00E+00	0.00E+00	4.30E-07	0.00E+00	0.00E+00	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.61E-08	2.38E-06	0.00E+00	0.00E+00	0.00E+00
2.41E-06	6.88E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.81E-06	2.09E-07	9.92E-07	0.00E+00	5.62E-07	1.14E-06	9.92E-07	4.96E-07	5.62E-07	9.26E-07	2.19E-06	2.77E-06	2.87E-07	1.70E-06	0.00E+00	5.50E-06	1.20E-06	4.46E-06	3.68E-06
0.00E+00	7.61E-06	1.48E-05	1.15E-05	4.77E-06	2.48E-07	9.90E-06	0.00E+00	0.00E+00	5.10E-06	0.00E+00	0.00E+00	1.22E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.27E-07	2.85E-05	0.00E+00	0.00E+00	0.00E+00
0	3.78E-06	7.32E-06	5.69E-06	2.37E-06	1.23E-07	4.91E-06	0	0	2.53E-06	0	0	6.08E-06	0	0	0	0	0	0	0	4.11E-07	1.41E-05	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.04**	**0.05**	**0.04**	**0.02**	**0.00**	**0.04**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.10**	**0.00**	**0.01**	**0.01**
0.00	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**
1.76	**13.80**	**17.02**	**13.23**	**5.50**	**0.29**	**15.66**	**0.15**	**0.72**	**5.89**	**0.41**	**0.83**	**14.85**	**0.36**	**0.41**	**0.68**	**1.60**	**2.02**	**0.21**	**1.24**	**0.95**	**36.87**	**0.88**	**3.26**	**2.69**

0	0.000154	0.000299	0.000232	9.66E-05	5.03E-06	0.0002	0	0	0.000103	0	0	0.000248	0	0	0	0	0	0	0	1.68E-05	0.000577	0	0	0
0	8.65E-05	0.000168	0.00013	5.42E-05	2.82E-06	0.000113	0	0	5.8E-05	0	0	0.000139	0	0	0	0	0	0	0	9.4E-06	0.000324	0	0	0
0	7.61E-06	1.48E-05	1.15E-05	4.77E-06	2.48E-07	9.9E-06	0	0	5.1E-06	0	0	1.22E-05	0	0	0	0	0	0	0	8.27E-07	2.85E-05	0	0	0
0	3.78E-06	7.32E-06	5.69E-06	2.37E-06	1.23E-07	4.91E-06	0	0	2.53E-06	0	0	6.08E-06	0	0	0	0	0	0	0	4.11E-07	1.41E-05	0	0	0
-	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	-	-	**0.00**	-	-	**0.00**	-	-	-	-	-	-	-	**0.00**	**0.00**	-	-	-
-	**0.46**	**0.89**	**0.69**	**0.29**	**0.01**	**0.60**	-	-	**0.31**	-	-	**0.74**	-	-	-	-	-	-	-	**0.05**	**1.72**	-	-	-
-	**0.08**	**0.16**	**0.13**	**0.05**	**0.00**	**0.11**	-	-	**0.06**	-	-	**0.13**	-	-	-	-	-	-	-	**0.01**	**0.31**	-	-	-
-	**167.39**	**324.47**	**252.30**	**104.92**	**5.46**	**217.73**	-	-	**112.20**	-	-	**269.27**	-	-	-	-	-	-	-	**18.19**	**626.49**	-	-	-

Cis-2-hexene	Heptene	Dimethyl napthalene	C-1 Compounds	C-10 Compounds	C-10 Olefins	C-10 Paraffins	C-11 Compounds	C-12 Compounds	C-13 Compounds	C-14 Alkane	C-14 Compounds	C-15 Alkane	C-15 Compounds	C-16 Alkane	C-16 Compounds	C-17 Compounds	C-18 Alkane	C-18 Compounds	C-19 Compounds	C-2 Compounds	C-20 Compounds	C-21 Compounds	C-22 Compounds	C-23 Compounds
	0.000245	5.03E-05			0.003263	0.008157				0.000104		9.89E-05		8.15E-05			1.11E-06							
	0.000137	2.82E-05			0.001832	0.00458				5.83E-05		5.55E-05		4.58E-05			6.28E-07							
	0.000242	4.96E-05			0.003222	0.008055				0.000103		9.76E-05		8.05E-05			1.10E-06							
	0.00012	2.46E-05			0.001599	0.003998				5.09E-05		4.84E-05		4.00E-05			5.51E-07							
7.83E-07			3.16E-05	1.92E-05			1.95E-05	1.20E-05	1.87E-05		2.42E-05		2.37E-05		1.90E-05	1.67E-05		1.11E-05	8.50E-06	0.000109	4.96E-06	4.09E-06	3.22E-06	2.61E-06
	1.01E-06	2.09E-07			1.35E-05	3.37E-05				4.30E-07		4.08E-07		3.42E-07			0							
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.77**	**0.16**	**0.06**	**0.04**	**10.22**	**25.54**	**0.04**	**0.02**	**0.04**	**0.33**	**0.05**	**0.31**	**0.05**	**0.26**	**0.04**	**0.03**	**0.00**	**0.02**	**0.02**	**0.22**	**0.01**	**0.01**	**0.01**	**0.01**
0.00	**0.14**	**0.03**	**0.01**	**0.01**	**1.86**	**4.66**	**0.01**	**0.00**	**0.01**	**0.06**	**0.01**	**0.06**	**0.01**	**0.05**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**
0.57	**279.56**	**57.45**	**23.06**	**13.99**	**3,729.50**	**9,322.78**	**14.23**	**8.75**	**13.64**	**118.72**	**17.70**	**112.98**	**17.29**	**93.19**	**13.87**	**12.17**	**1.27**	**8.11**	**6.20**	**79.36**	**3.62**	**2.99**	**2.35**	**1.91**

0.00E+00	1.01E-06	2.09E-07	0.00E+00	0.00E+00	1.35E-05	3.37E-05	0.00E+00	0.00E+00	0.00E+00	4.30E-07	0.00E+00	4.08E-07	0.00E+00	3.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7.83E-07	0.00E+00	0.00E+00	3.16E-05	1.92E-05	0.00E+00	0.00E+00	1.95E-05	1.20E-05	1.87E-05	0.00E+00	2.42E-05	0.00E+00	2.37E-05	0.00E+00	1.90E-05	1.67E-05	0.00E+00	1.11E-05	8.50E-06	1.09E-04	4.96E-06	4.09E-06	3.22E-06	2.61E-06
0.00E+00	1.21E-05	2.48E-06	0.00E+00	0.00E+00	1.61E-04	4.03E-04	0.00E+00	0.00E+00	0.00E+00	5.13E-06	0.00E+00	4.88E-06	0.00E+00	4.03E-06	0.00E+00	0.00E+00	5.51E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0	5.99E-06	1.23E-06	0	0	8E-05	0.0002	0	0	0	2.55E-06	0	2.42E-06	0	2E-06	0	0	2.76E-08	0	0	0	0	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.04**	**0.01**	**0.06**	**0.04**	**0.51**	**1.27**	**0.04**	**0.02**	**0.04**	**0.02**	**0.05**	**0.02**	**0.05**	**0.01**	**0.04**	**0.03**	**0.00**	**0.02**	**0.02**	**0.22**	**0.01**	**0.01**	**0.01**	**0.01**
0.00	**0.01**	**0.00**	**0.01**	**0.01**	**0.09**	**0.23**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**
0.57	**13.93**	**2.86**	**23.06**	**13.99**	**185.84**	**464.54**	**14.23**	**8.75**	**13.64**	**5.92**	**17.70**	**5.63**	**17.29**	**4.65**	**13.87**	**12.17**	**0.06**	**8.11**	**6.20**	**79.36**	**3.62**	**2.99**	**2.35**	**1.91**

0	0.000245	5.03E-05	0	0	0.003263	0.008157	0	0	0	0.000104	0	9.89E-05	0	8.15E-05	0	0	1.11E-06	0	0	0	0	0	0	0
0	0.000137	2.82E-05	0	0	0.001832	0.00458	0	0	0	5.83E-05	0	5.55E-05	0	4.58E-05	0	0	6.28E-07	0	0	0	0	0	0	0
0	1.21E-05	2.48E-06	0	0	0.000161	0.000403	0	0	0	5.13E-06	0	4.88E-06	0	4.03E-06	0	0	5.51E-08	0	0	0	0	0	0	0
0	5.99E-06	1.23E-06	0	0	8E-05	0.0002	0	0	0	2.55E-06	0	2.42E-06	0	2E-06	0	0	2.76E-08	0	0	0	0	0	0	0
-	**0.00**	**0.00**	**-**	**-**	**0.00**	**0.01**	**-**	**-**	**-**	**0.00**	**-**	**0.00**	**-**	**0.00**	**-**	**-**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
-	**0.73**	**0.15**	**-**	**-**	**9.71**	**24.27**	**-**	**-**	**-**	**0.31**	**-**	**0.29**	**-**	**0.24**	**-**	**-**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
-	**0.13**	**0.03**	**-**	**-**	**1.77**	**4.43**	**-**	**-**	**-**	**0.06**	**-**	**0.05**	**-**	**0.04**	**-**	**-**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
-	**265.63**	**54.58**	**-**	**-**	**3,543.66**	**8,858.24**	**-**	**-**	**-**	**112.81**	**-**	**107.35**	**-**	**88.54**	**-**	**-**	**1.21**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

C-24 Compounds	C-25 Compounds	C-26 Compounds	C-27 Compounds	C-28 Compounds	C-29 Compounds	C-3 Compounds	C-30 Compounds	C-31 Compounds	C-32 Compounds	C-33 Compounds	C-34 Compounds	C-35 Compounds	C-36 Compounds	C-37 Compounds	C-38 Compounds	C-39 Compounds	C-4 Compounds	C-40 Compounds	C-41 Compounds	C-42 Compounds	C-43 compounds	C-5 Compounds	C-6 Compounds	C-7 Compounds
2.61E-06	2.94E-06	2.39E-06	1.20E-06	1.74E-06	7.61E-07	2.84E-05	1.74E-06	1.58E-06	1.47E-06	1.20E-06	1.31E-06	8.71E-07	1.09E-06	4.41E-07	2.76E-07	5.95E-07	2.22E-05	1.10E-07	2.76E-07	1.10E-07	5.51E-08	1.29E-05	2.34E-05	1.57E-05
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.01	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.05**	**0.03**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**
1.91	**2.15**	**1.75**	**0.88**	**1.27**	**0.56**	**20.71**	**1.27**	**1.15**	**1.07**	**0.88**	**0.96**	**0.64**	**0.80**	**0.32**	**0.20**	**0.43**	**16.22**	**0.08**	**0.20**	**0.08**	**0.04**	**9.38**	**17.10**	**11.49**
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2.61E-06	2.94E-06	2.39E-06	1.20E-06	1.74E-06	7.61E-07	2.84E-05	1.74E-06	1.58E-06	1.47E-06	1.20E-06	1.31E-06	8.71E-07	1.09E-06	4.41E-07	2.76E-07	5.95E-07	2.22E-05	1.10E-07	2.76E-07	1.10E-07	5.51E-08	1.29E-05	2.34E-05	1.57E-05
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.01	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.05**	**0.03**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**
1.91	**2.15**	**1.75**	**0.88**	**1.27**	**0.56**	**20.71**	**1.27**	**1.15**	**1.07**	**0.88**	**0.96**	**0.64**	**0.80**	**0.32**	**0.20**	**0.43**	**16.22**	**0.08**	**0.20**	**0.08**	**0.04**	**9.38**	**17.10**	**11.49**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

C-8 Compounds	C-9 Compounds	Cyclopentylcyclopentane	Hexyne	Methylcyclooctane	Pentyne	T-1-Phenylbutene	Decanol	Dodecanol
							0.003263	0.001631
							0.001832	0.000916
							0.003222	0.001611
							0.001599	0.000799
6.15E-06	4.09E-06	3.26E-06	1.43E-07	2.34E-06	1.34E-06	1.63E-06		
							1.35E-05	6.75E-06
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**
0.01	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**10.22**	**5.11**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.86**	**0.93**
4.49	**2.99**	**2.38**	**0.10**	**1.71**	**0.98**	**1.19**	**3,729.50**	**1,864.43**

0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-05	6.75E-06
6.15E-06	4.09E-06	3.26E-06	1.43E-07	2.34E-06	1.34E-06	1.63E-06	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-04	8.05E-05
0	0	0	0	0	0	0	8E-05	4E-05
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.01	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.51**	**0.25**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**	**0.05**
4.49	**2.99**	**2.38**	**0.10**	**1.71**	**0.98**	**1.19**	**185.84**	**92.90**

0	0	0	0	0	0	0	0.003263	0.001631
0	0	0	0	0	0	0	0.001832	0.000916
0	0	0	0	0	0	0	0.000161	8.05E-05
0	0	0	0	0	0	0	8E-05	4E-05
-	**-**	**-**	**-**	**-**	**-**	**-**	**0.00**	**0.00**
-	**-**	**-**	**-**	**-**	**-**	**-**	**9.71**	**4.85**
-	**-**	**-**	**-**	**-**	**-**	**-**	**1.77**	**0.89**
-	**-**	**-**	**-**	**-**	**-**	**-**	**3,543.66**	**1,771.52**

ATTACHMENT B - March Air Reserve Base - D1 Project - Reduced Flight Operations Scenario - Speciated Organic Gases and Hazardous Air Pollutants - April 2022

Combined on and off-site

Mode	Formaldehyde (IRIS, CAA)	Methyl alcohol (IRIS, CAA)	Benzene (IRIS, CAA)	C-5 Benzene + C-4 Aroald	C-4 Benzene + C-3 Aroald	Acetaldehyde (IRIS, CAA)	Naphthalene (IRIS, CAA)	O-xylene (IRIS, CAA)	Isopropyl benzene (cumene) (IRIS, CAA)	Ethylbenzene (IRIS, CAA)	Styrene (IRIS, CAA)	M & P-xylene (IRIS, CAA)	1,3-butadiene (IRIS, CAA)	Acrolein (IRIS, CAA)	M-xylene (IRIS, CAA)	Toluene (IRIS, CAA)	Phenol (carbolic acid) (IRIS, CAA)	N-hexane (IRIS, CAA)	2,2,4-trimethyl pentane (IRIS, CAA)	Propionaldehyde (CAA)	Acetone (IRIS)	2-methylnaphthalene (IRIS)
Departure Below Mixing Height	0.006194	0.000908	0.000163	0.00033	0.000846	0.002149	0.000272	8.35E-05	1.51E-06	8.75E-05	0.000155	0.000142	0.000849	0.001232		0.000323	0.000365			0.000366	0.000186	0.000104
Arrival Below Mixing Height	0.00347	0.000509	9.13E-05	0.000185	0.000474	0.001204	0.000152	4.68E-05	8.49E-07	4.90E-05	8.71E-05	7.95E-05	0.000476	0.00069		0.000181	0.000205			0.000205	0.000104	5.81E-05
DepartureTaxi	0.006116	0.000897	0.000161	0.000326	0.000835	0.002123	0.000269	8.25E-05	1.49E-06	8.65E-05	0.000154	0.00014	0.000838	0.001217		0.000319	0.000361			0.000361	0.000183	0.000102
ArrivalTaxi	0.003029	0.000444	7.97E-05	0.000161	0.000414	0.001051	0.000133	4.08E-05	7.39E-07	4.28E-05	7.60E-05	6.94E-05	0.000415	0.000603		0.000158	0.000179			0.000179	9.08E-05	5.07E-05
Ground Service Equipment	6.39E-05				1.55E-05	2.16E-05		8.07E-06		5.94E-06					1.65E-05	2.64E-05		1.36E-05	1.33E-05	1.31E-05		
Aircraft Auxiliary Power Units	3.55E-05	5.21E-06	9.37E-07	1.90E-06	4.85E-06	1.23E-05	1.57E-06	4.74E-07	1.10E-08	5.07E-07	8.93E-07	8.16E-07	4.87E-06	7.07E-06		1.85E-06	2.09E-06			2.09E-06	1.07E-06	5.95E-07
DAILY TOTAL (ST)	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
DAILY TOTAL (LBS)	**19.53**	**2.84**	**0.51**	**1.03**	**2.68**	**6.77**	**0.85**	**0.28**	**0.00**	**0.29**	**0.49**	**0.44**	**2.66**	**3.86**	**0.03**	**1.06**	**1.14**	**0.03**	**0.03**	**1.17**	**0.58**	**0.32**
ANNUAL TOTAL (ST)	**3.56**	**0.52**	**0.09**	**0.19**	**0.49**	**1.24**	**0.16**	**0.05**	**0.00**	**0.05**	**0.09**	**0.08**	**0.49**	**0.70**	**0.01**	**0.19**	**0.21**	**0.00**	**0.00**	**0.21**	**0.11**	**0.06**
ANNUAL TOTAL (LBS)	**7,126.88**	**1,038.17**	**186.36**	**377.31**	**978.17**	**2,472.84**	**311.16**	**101.37**	**1.73**	**104.42**	**177.72**	**162.20**	**970.30**	**1,408.56**	**12.04**	**388.55**	**417.57**	**9.91**	**9.71**	**427.72**	**212.24**	**118.48**

On-Site

Mode	Formaldehyde (IRIS, CAA)	Methyl alcohol (IRIS, CAA)	Benzene (IRIS, CAA)	C-5 Benzene + C-4 Aroald	C-4 Benzene + C-3 Aroald	Acetaldehyde (IRIS, CAA)	Naphthalene (IRIS, CAA)	O-xylene (IRIS, CAA)	Isopropyl benzene (cumene) (IRIS, CAA)	Ethylbenzene (IRIS, CAA)	Styrene (IRIS, CAA)	M & P-xylene (IRIS, CAA)	1,3-butadiene (IRIS, CAA)	Acrolein (IRIS, CAA)	M-xylene (IRIS, CAA)	Toluene (IRIS, CAA)	Phenol (carbolic acid) (IRIS, CAA)	N-hexane (IRIS, CAA)	2,2,4-trimethyl pentane (IRIS, CAA)	Propionaldehyde (CAA)	Acetone (IRIS)	2-methylnaphthalene (IRIS)
Aircraft Auxiliary Power Units	3.55E-05	5.21E-06	9.37E-07	1.90E-06	4.85E-06	1.23E-05	1.57E-06	4.74E-07	1.10E-08	5.07E-07	8.93E-07	8.16E-07	4.87E-06	7.07E-06	0.00E+00	1.85E-06	2.09E-06	0.00E+00	0.00E+00	2.09E-06	1.07E-06	5.95E-07
Ground Service Equipment	6.39E-05	0.00E+00	0.00E+00	0.00E+00	1.55E-05	2.16E-05	0.00E+00	8.07E-06	0.00E+00	5.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-05	2.64E-05	0.00E+00	1.36E-05	1.33E-05	1.31E-05	0.00E+00	0.00E+00
Taxi out - 5% Assigned **	3.06E-04	4.48E-05	8.05E-06	1.63E-05	4.18E-05	1.06E-04	1.34E-05	4.12E-06	7.44E-08	4.32E-06	7.68E-06	7.01E-06	4.19E-05	6.08E-05	0.00E+00	1.59E-05	1.80E-05	0.00E+00	0.00E+00	1.81E-05	9.17E-06	5.12E-06
Taxi in - 5% Assigned **	0.000151	2.22E-05	3.99E-06	8.07E-06	2.07E-05	5.26E-05	6.66E-06	2.04E-06	3.69E-08	2.14E-06	3.8E-06	3.47E-06	2.08E-05	3.01E-05	0	7.9E-06	8.93E-06	0	0	8.94E-06	4.54E-06	2.53E-06
DAILY ON-SITE TOTAL (ST)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
DAILY ON-SITE TOTAL (LBS)	**1.11**	**0.14**	**0.03**	**0.05**	**0.17**	**0.39**	**0.04**	**0.03**	**0.00**	**0.03**	**0.02**	**0.02**	**0.14**	**0.20**	**0.03**	**0.10**	**0.06**	**0.03**	**0.03**	**0.08**	**0.03**	**0.02**
ANNUAL ON-SITE TOTAL (ST)	**0.20**	**0.03**	**0.00**	**0.01**	**0.03**	**0.07**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.04**	**0.01**	**0.02**	**0.01**	**0.00**	**0.00**	**0.02**	**0.01**	**0.00**
ANNUAL ON-SITE TOTAL (LBS)	**406.40**	**52.75**	**9.47**	**19.17**	**60.45**	**140.60**	**15.81**	**10.74**	**0.09**	**9.43**	**9.03**	**8.24**	**49.30**	**71.56**	**12.04**	**38.06**	**21.21**	**9.91**	**9.71**	**30.83**	**10.79**	**6.02**

Off-Site

Mode	Formaldehyde (IRIS, CAA)	Methyl alcohol (IRIS, CAA)	Benzene (IRIS, CAA)	C-5 Benzene + C-4 Aroald	C-4 Benzene + C-3 Aroald	Acetaldehyde (IRIS, CAA)	Naphthalene (IRIS, CAA)	O-xylene (IRIS, CAA)	Isopropyl benzene (cumene) (IRIS, CAA)	Ethylbenzene (IRIS, CAA)	Styrene (IRIS, CAA)	M & P-xylene (IRIS, CAA)	1,3-butadiene (IRIS, CAA)	Acrolein (IRIS, CAA)	M-xylene (IRIS, CAA)	Toluene (IRIS, CAA)	Phenol (carbolic acid) (IRIS, CAA)	N-hexane (IRIS, CAA)	2,2,4-trimethyl pentane (IRIS, CAA)	Propionaldehyde (CAA)	Acetone (IRIS)	2-methylnaphthalene (IRIS)
Departure Below Mixing Height	0.006194	0.000908	0.000163	0.00033	0.000846	0.002149	0.000272	8.35E-05	1.51E-06	8.75E-05	0.000155	0.000142	0.000849	0.001232	0	0.000323	0.000365	0	0	0.000366	0.000186	0.000104
Arrival Below Mixing Height	0.00347	0.000509	9.13E-05	0.000185	0.000474	0.001204	0.000152	4.68E-05	8.49E-07	4.9E-05	8.71E-05	7.95E-05	0.000476	0.00069	0	0.000181	0.000205	0	0	0.000205	0.000104	5.81E-05
Taxi out - 5% subtracted out **	0.000306	4.48E-05	8.05E-06	1.63E-05	4.18E-05	0.000106	1.34E-05	4.12E-06	7.44E-08	4.32E-06	7.68E-06	7.01E-06	4.19E-05	6.08E-05	0	1.59E-05	1.8E-05	0	0	1.81E-05	9.17E-06	5.12E-06
Taxi in - 5% subtracted out **	0.000151	2.22E-05	3.99E-06	8.07E-06	2.07E-05	5.26E-05	6.66E-06	2.04E-06	3.69E-08	2.14E-06	3.8E-06	3.47E-06	2.08E-05	3.01E-05	0	7.9E-06	8.93E-06	0	0	8.94E-06	4.54E-06	2.53E-06
DAILY ON-SITE TOTAL (ST)	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**0.00**	**0.00**	**-**	**-**	**0.00**	**0.00**	**0.00**
DAILY ON-SITE TOTAL (LBS)	**18.41**	**2.70**	**0.48**	**0.98**	**2.51**	**6.39**	**0.81**	**0.25**	**0.00**	**0.26**	**0.46**	**0.42**	**2.52**	**3.66**	**-**	**0.96**	**1.09**	**-**	**-**	**1.09**	**0.55**	**0.31**
ANNUAL ON-SITE TOTAL (ST)	**3.36**	**0.49**	**0.09**	**0.18**	**0.46**	**1.17**	**0.15**	**0.05**	**0.00**	**0.05**	**0.08**	**0.08**	**0.46**	**0.67**	**-**	**0.18**	**0.20**	**-**	**-**	**0.20**	**0.10**	**0.06**
ANNUAL ON-SITE TOTAL (LBS)	**6,720.49**	**985.42**	**176.89**	**358.14**	**917.72**	**2,332.24**	**295.34**	**90.63**	**1.64**	**94.99**	**168.69**	**153.96**	**921.00**	**1,337.00**	**-**	**350.50**	**396.35**	**-**	**-**	**396.89**	**201.45**	**112.46**

* Speciated Organic Gasses and Hazardous Air Pollutant information is not available for aircraft engine startup

** Sub totals above for on-site and off-site assume that 5% of taxiing aircraft emissions occur within the project boundary and 95% occur outside of the project boundary

** For off-site sub totals, taxi emissions are included in the "departure below mixing height" and "arrival below mixing height". Therefore, 5% of taxi emissions are subtracted from the off-site sub total to reflect 95% of all taxi emissions occuring off-site.

* Blank cells reflect data not available

Benzaldehyde (IRIS)	N-heptane (IRIS)	Hexaldehyde	Methane	Ethane	Ethylene	Acetylene	Propane	1-propyne	Isobutane	2,2-dimethyl butane	Isopentane	Isoprene	2-methyl-2-propenal (methacrolein)	Methylglyoxal	2,3-dimethyl butane	1-Methylnaphthalene	1,2,4-trimethyl benzene (1,3,4-trimethyl benzene)	3-methylpentane	Methylcyclopentane	N-propylbenzene	N-butylbenzene	p-Tolualdehyde	N-butane	4-Phenyl-1-butene
0.000236	3.22E-05			0.000262	0.007779	0.001982	3.92E-05						0.000216	0.000756		0.000124	0.000176			2.67E-05		2.42E-05		
0.000132	1.80E-05			0.000147	0.004358	0.00111	2.20E-05						0.000121	0.000424		6.96E-05	9.87E-05			1.49E-05		1.35E-05		
0.000234	3.18E-05			0.000259	0.007682	0.001957	3.88E-05						0.000213	0.000747		0.000123	0.000174			2.63E-05		2.38E-05		
0.000116	1.57E-05			0.000128	0.003804	0.000969	1.92E-05						0.000106	0.00037		6.08E-05	8.61E-05			1.30E-05		1.18E-05		
4.09E-06	6.47E-06	5.95E-07	2.17E-05	6.12E-06	3.86E-05	2.36E-05		2.13E-06	3.04E-05	1.95E-06	9.79E-05	8.82E-07			8.69E-06		1.28E-05	1.37E-05	9.84E-06	2.74E-06	1.86E-06		0.000199	2.30E-06
1.36E-06	1.87E-07			1.50E-06	4.46E-05	1.14E-05	2.20E-07						1.23E-06	4.33E-06		7.17E-07	1.01E-06			1.54E-07		1.43E-07		
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.75	**0.11**	**0.00**	**0.04**	**0.83**	**24.44**	**6.25**	**0.12**	**0.00**	**0.06**	**0.00**	**0.20**	**0.00**	**0.68**	**2.37**	**0.02**	**0.39**	**0.58**	**0.03**	**0.02**	**0.09**	**0.00**	**0.08**	**0.40**	**0.00**
0.14	**0.02**	**0.00**	**0.01**	**0.15**	**4.46**	**1.14**	**0.02**	**0.00**	**0.01**	**0.00**	**0.04**	**0.00**	**0.12**	**0.43**	**0.00**	**0.07**	**0.11**	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.07**	**0.00**
273.31	**41.53**	**0.43**	**15.86**	**304.12**	**8,920.69**	**2,282.77**	**44.85**	**1.55**	**22.21**	**1.42**	**71.47**	**0.64**	**246.74**	**864.46**	**6.34**	**142.07**	**210.63**	**9.97**	**7.19**	**32.49**	**1.36**	**27.61**	**145.15**	**1.68**

1.36E-06	1.87E-07	0.00E+00	0.00E+00	1.50E-06	4.46E-05	1.14E-05	2.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-06	4.33E-06	0.00E+00	7.17E-07	1.01E-06	0.00E+00	0.00E+00	1.54E-07	0.00E+00	1.43E-07	0.00E+00	0.00E+00
4.09E-06	6.47E-06	5.95E-07	2.17E-05	6.12E-06	3.86E-05	2.36E-05	0.00E+00	2.13E-06	3.04E-05	1.95E-06	9.79E-05	8.82E-07	0.00E+00	0.00E+00	8.69E-06	0.00E+00	1.28E-05	1.37E-05	9.84E-06	2.74E-06	1.86E-06	0.00E+00	1.99E-04	2.30E-06
1.17E-05	1.59E-06	0.00E+00	0.00E+00	1.29E-05	3.84E-04	9.79E-05	1.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.07E-05	3.73E-05	0.00E+00	6.14E-06	8.69E-06	0.00E+00	0.00E+00	1.32E-06	0.00E+00	1.19E-06	0.00E+00	0.00E+00
5.78E-06	7.87E-07	0	0	6.41E-06	0.00019	4.85E-05	9.6E-07	0	0	0	0	0	5.28E-06	1.85E-05	0	3.04E-06	4.31E-06	0	0	6.52E-07	0	5.9E-07	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.05	**0.02**	**0.00**	**0.04**	**0.05**	**1.31**	**0.36**	**0.01**	**0.00**	**0.06**	**0.00**	**0.20**	**0.00**	**0.03**	**0.12**	**0.02**	**0.02**	**0.05**	**0.03**	**0.02**	**0.01**	**0.00**	**0.00**	**0.40**	**0.00**
0.01	**0.00**	**0.00**	**0.01**	**0.01**	**0.24**	**0.07**	**0.00**	**0.00**	**0.01**	**0.00**	**0.04**	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.00**
16.72	**6.60**	**0.43**	**15.86**	**19.69**	**479.96**	**132.32**	**2.28**	**1.55**	**22.21**	**1.42**	**71.47**	**0.64**	**12.53**	**43.92**	**6.34**	**7.22**	**19.56**	**9.97**	**7.19**	**3.55**	**1.36**	**1.41**	**145.15**	**1.68**

0.000236	3.22E-05	0	0	0.000262	0.007779	0.001982	3.92E-05	0	0	0	0	0	0.000216	0.000756	0	0.000124	0.000176	0	0	2.67E-05	0	2.42E-05	0	0
0.000132	1.8E-05	0	0	0.000147	0.004358	0.00111	2.2E-05	0	0	0	0	0	0.000121	0.000424	0	6.96E-05	9.87E-05	0	0	1.49E-05	0	1.35E-05	0	0
1.17E-05	1.59E-06	0	0	1.29E-05	0.000384	9.79E-05	1.94E-06	0	0	0	0	0	1.07E-05	3.73E-05	0	6.14E-06	8.69E-06	0	0	1.32E-06	0	1.19E-06	0	0
5.78E-06	7.87E-07	0	0	6.41E-06	0.00019	4.85E-05	9.6E-07	0	0	0	0	0	5.28E-06	1.85E-05	0	3.04E-06	4.31E-06	0	0	6.52E-07	0	5.9E-07	0	0
0.00	**0.00**	-	-	**0.00**	**0.01**	**0.00**	**0.00**	-	-	-	-	-	**0.00**	**0.00**	-	**0.00**	**0.00**	-	-	**0.00**	-	**0.00**	-	-
0.70	**0.10**	-	-	**0.78**	**23.13**	**5.89**	**0.12**	-	-	-	-	-	**0.64**	**2.25**	-	**0.37**	**0.52**	-	-	**0.08**	-	**0.07**	-	-
0.13	**0.02**	-	-	**0.14**	**4.22**	**1.08**	**0.02**	-	-	-	-	-	**0.12**	**0.41**	-	**0.07**	**0.10**	-	-	**0.01**	-	**0.01**	-	-
256.59	**34.93**	-	-	**284.44**	**8,440.73**	**2,150.45**	**42.58**	-	-	-	-	-	**234.21**	**820.54**	-	**134.85**	**191.08**	-	-	**28.93**	-	**26.20**	-	-

3-methyl-1-butene	2-methyl-1-butene	1-butene	Glyoxal	2,4,4-trimethyl-1-pentene	2-methylpentane	2,4-dimethylpentane	1,3,5-trimethylbenzene	Methylcyclohexane	N-pentane	1-pentene	2-methyl-1-pentene	4-methyl-1-pentene	Valeraldehyde	Cyclohexene	N-octane	1-octene	N-nonane	N-dodecane	Propylene	Butyraldehyde	1-nonene	N-decane	1,2-diethylbenzene (ortho)	(1-Methylpropyl)benzene
0.000883	5.64E-05	7.04E-05	0.000914		0.000205		2.72E-05		9.96E-05	1.71E-05	3.47E-05	0.00039	0.000123		3.12E-05	0.000139	3.12E-05	0.000232	0.002281	5.99E-05	0.000124	0.000161		
0.000494	3.16E-05	3.95E-05	0.000512		0.000115		1.52E-05		5.58E-05	9.58E-06	1.94E-05	0.000219	6.91E-05		1.75E-05	7.78E-05	1.75E-05	0.00013	0.001278	3.35E-05	6.93E-05	9.02E-05		
0.000871	5.56E-05	6.96E-05	0.000902		0.000203		2.68E-05		9.84E-05	1.69E-05	3.43E-05	0.000386	0.000122		3.08E-05	0.000137	3.08E-05	0.00023	0.002253	5.91E-05	0.000122	0.000159		
0.000432	2.76E-05	3.44E-05	0.000447		0.0001		1.33E-05		4.87E-05	8.37E-06	1.70E-05	0.000191	6.03E-05		1.53E-05	6.79E-05	1.53E-05	0.000114	0.001115	2.93E-05	6.05E-05	7.87E-05		
9.84E-06	1.25E-06			1.53E-05	2.49E-05	5.68E-06	1.07E-05	2.30E-06	4.31E-05			3.64E-06		1.40E-05	2.13E-06		9.70E-07		1.39E-05			9.70E-07	2.66E-06	4.41E-07
5.06E-06	3.20E-07	4.08E-07	5.24E-06		1.18E-06		1.54E-07		5.73E-07	9.92E-08	1.98E-07	2.24E-06	7.05E-07		1.76E-07	7.94E-07	1.76E-07	1.33E-06	1.31E-05	3.42E-07	7.05E-07	9.26E-07		
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
2.78	**0.18**	**0.22**	**2.86**	**0.03**	**0.69**	**0.01**	**0.11**	**0.00**	**0.40**	**0.05**	**0.11**	**1.23**	**0.39**	**0.03**	**0.10**	**0.43**	**0.10**	**0.73**	**7.17**	**0.19**	**0.39**	**0.51**	**0.01**	**0.00**
0.51	**0.03**	**0.04**	**0.52**	**0.01**	**0.13**	**0.00**	**0.02**	**0.00**	**0.07**	**0.01**	**0.02**	**0.22**	**0.07**	**0.01**	**0.02**	**0.08**	**0.02**	**0.13**	**1.31**	**0.03**	**0.07**	**0.09**	**0.00**	**0.00**
#######	**65.32**	**80.53**	**1,044.48**	**11.20**	**252.86**	**4.14**	**38.89**	**1.68**	**145.35**	**19.55**	**39.68**	**448.98**	**140.92**	**10.23**	**37.21**	**158.74**	**36.36**	**265.72**	**2,617.94**	**68.45**	**141.48**	**184.76**	**1.94**	**0.32**

5.06E-06	3.20E-07	4.08E-07	5.24E-06	0.00E+00	1.18E-06	0.00E+00	1.54E-07	0.00E+00	5.73E-07	9.92E-08	1.98E-07	2.24E-06	7.05E-07	0.00E+00	1.76E-07	7.94E-07	1.76E-07	1.33E-06	1.31E-05	3.42E-07	7.05E-07	9.26E-07	0.00E+00	0.00E+00
9.84E-06	1.25E-06	0.00E+00	0.00E+00	1.53E-05	2.49E-05	5.68E-06	1.07E-05	2.30E-06	4.31E-05	0.00E+00	0.00E+00	3.64E-06	0.00E+00	1.40E-05	2.13E-06	0.00E+00	9.70E-07	0.00E+00	1.39E-05	0.00E+00	0.00E+00	9.70E-07	2.66E-06	4.41E-07
4.36E-05	2.78E-06	3.48E-06	4.51E-05	0.00E+00	1.01E-05	0.00E+00	1.34E-06	0.00E+00	4.92E-06	8.44E-07	1.71E-06	1.93E-05	6.09E-06	0.00E+00	1.54E-06	6.86E-06	1.54E-06	1.15E-05	1.13E-04	2.96E-06	6.11E-06	7.95E-06	0.00E+00	0.00E+00
2.16E-05	1.38E-06	1.72E-06	2.23E-05	0	5.02E-06	0	6.64E-07	0	2.44E-06	4.18E-07	8.49E-07	9.55E-06	3.01E-06	0	7.63E-07	3.4E-06	7.63E-07	5.68E-06	5.58E-05	1.46E-06	3.03E-06	3.94E-06	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.16	**0.01**	**0.01**	**0.15**	**0.03**	**0.08**	**0.01**	**0.03**	**0.00**	**0.10**	**0.00**	**0.01**	**0.07**	**0.02**	**0.03**	**0.01**	**0.02**	**0.01**	**0.04**	**0.39**	**0.01**	**0.02**	**0.03**	**0.01**	**0.00**
0.03	**0.00**	**0.00**	**0.03**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.01**	**0.07**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**
58.44	**4.18**	**4.09**	**53.06**	**11.20**	**30.12**	**4.14**	**9.41**	**1.68**	**37.25**	**0.99**	**2.02**	**25.33**	**7.16**	**10.23**	**3.36**	**8.06**	**2.52**	**13.50**	**142.65**	**3.48**	**7.19**	**10.06**	**1.94**	**0.32**

0.000883	5.64E-05	7.04E-05	0.000914	0	0.000205	0	2.72E-05	0	9.96E-05	1.71E-05	3.47E-05	0.00039	0.000123	0	3.12E-05	0.000139	3.12E-05	0.000232	0.002281	5.99E-05	0.000124	0.000161	0	0
0.000494	3.16E-05	3.95E-05	0.000512	0	0.000115	0	1.52E-05	0	5.58E-05	9.58E-06	1.94E-05	0.000219	6.91E-05	0	1.75E-05	7.78E-05	1.75E-05	0.00013	0.001278	3.35E-05	6.93E-05	9.02E-05	0	0
4.36E-05	2.78E-06	3.48E-06	4.51E-05	0	1.01E-05	0	1.34E-06	0	4.92E-06	8.44E-07	1.71E-06	1.93E-05	6.09E-06	0	1.54E-06	6.86E-06	1.54E-06	1.15E-05	0.000113	2.96E-06	6.11E-06	7.95E-06	0	0
2.16E-05	1.38E-06	1.72E-06	2.23E-05	0	5.02E-06	0	6.64E-07	0	2.44E-06	4.18E-07	8.49E-07	9.55E-06	3.01E-06	0	7.63E-07	3.4E-06	7.63E-07	5.68E-06	5.58E-05	1.46E-06	3.03E-06	3.94E-06	0	0
0.00	**0.00**	**0.00**	**0.00**	**-**	**0.00**	**-**	**0.00**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**-**
2.62	**0.17**	**0.21**	**2.72**	**-**	**0.61**	**-**	**0.08**	**-**	**0.30**	**0.05**	**0.10**	**1.16**	**0.37**	**-**	**0.09**	**0.41**	**0.09**	**0.69**	**6.78**	**0.18**	**0.37**	**0.48**	**-**	**-**
0.48	**0.03**	**0.04**	**0.50**	**-**	**0.11**	**-**	**0.01**	**-**	**0.05**	**0.01**	**0.02**	**0.21**	**0.07**	**-**	**0.02**	**0.08**	**0.02**	**0.13**	**1.24**	**0.03**	**0.07**	**0.09**	**-**	**-**
957.58	**61.14**	**76.43**	**991.42**	**-**	**222.75**	**-**	**29.48**	**-**	**108.10**	**18.56**	**37.66**	**423.65**	**133.76**	**-**	**33.85**	**150.68**	**33.85**	**252.22**	**2,475.29**	**64.97**	**134.30**	**174.70**	**-**	**-**

1,3-diethylbenzene (meta)	Cyclopentene	Cyclopentane	1,2-propadiene	Indan	2-methyl-2-butene	1,2,3-trimethylbenzene	o-Tolualdehyde	N-Hexadecane	2,3,3-trimethylpentane	2,3,4-trimethylpentane	2,4-dimethylhexane	4-methylheptane	3-methylheptane	Cis-2-butene	Isovaleraldehyde	2-methylheptane	1-hexene	1-Methyl-2-ethylbenzene (o-ethyltoluene)	1-Methyl-3-ethylbenzene (m-ethyltoluene)	Tolualdehyde	1-Methyl-4-ethylbenzene (p-ethyltoluene)	Cis-1,4-dimethylcyclohexane	Trans-2-butene	2-methyl-2-pentene
					9.31E-05	5.33E-05	0.000116	2.47E-05						0.000106	1.61E-05		0.00037	3.27E-05	7.75E-05	0.00014	3.22E-05			
					5.21E-05	2.99E-05	6.48E-05	1.38E-05						5.92E-05	9.02E-06		0.000207	1.83E-05	4.34E-05	7.84E-05	1.80E-05			
					9.19E-05	5.27E-05	0.000114	2.44E-05						0.000104	1.59E-05		0.000366	3.23E-05	7.65E-05	0.000138	3.18E-05			
					4.55E-05	2.61E-05	5.66E-05	1.21E-05						5.17E-05	7.87E-06		0.000181	1.60E-05	3.79E-05	6.84E-05	1.57E-05			
2.04E-06	2.57E-06	4.25E-06	9.70E-07	2.83E-06	9.70E-07	2.30E-06			3.73E-06	2.30E-06	3.73E-06	2.22E-06	3.11E-06	5.94E-06		2.30E-06	2.48E-06		1.42E-06			7.05E-07	7.89E-06	3.02E-06
					5.29E-07	3.09E-07	6.61E-07	1.43E-07						6.06E-07	8.82E-08		2.13E-06	1.87E-07	4.41E-07	8.05E-07	1.87E-07			
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.01**	**0.01**	**0.00**	**0.01**	**0.29**	**0.17**	**0.36**	**0.08**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.34**	**0.05**	**0.00**	**1.16**	**0.10**	**0.25**	**0.44**	**0.10**	**0.00**	**0.02**	**0.01**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.05**	**0.03**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.01**	**0.00**	**0.21**	**0.02**	**0.04**	**0.08**	**0.02**	**0.00**	**0.00**	**0.00**
1.49	**1.87**	**3.11**	**0.71**	**2.07**	**107.10**	**62.64**	**132.28**	**28.19**	**2.72**	**1.68**	**2.72**	**1.62**	**2.27**	**125.12**	**18.40**	**1.68**	**425.13**	**37.39**	**89.61**	**159.89**	**36.81**	**0.51**	**5.76**	**2.20**

0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-07	3.09E-07	6.61E-07	1.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.06E-07	8.82E-08	0.00E+00	2.13E-06	1.87E-07	4.41E-07	8.05E-07	1.87E-07	0.00E+00	0.00E+00	0.00E+00
2.04E-06	2.57E-06	4.25E-06	9.70E-07	2.83E-06	9.70E-07	2.30E-06	0.00E+00	0.00E+00	3.73E-06	2.30E-06	3.73E-06	2.22E-06	3.11E-06	5.94E-06	0.00E+00	2.30E-06	2.48E-06	0.00E+00	1.42E-06	0.00E+00	0.00E+00	7.05E-07	7.89E-06	3.02E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.60E-06	2.63E-06	5.71E-06	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.22E-06	7.95E-07	0.00E+00	1.83E-05	1.61E-06	3.83E-06	6.91E-06	1.59E-06	0.00E+00	0.00E+00	0.00E+00
0	0	0	0	0	2.28E-06	1.3E-06	2.83E-06	6.03E-07	0	0	0	0	0	2.58E-06	3.94E-07	0	9.05E-06	8E-07	1.89E-06	3.42E-06	7.87E-07	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.01**	**0.01**	**0.00**	**0.01**	**0.02**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.06**	**0.01**	**0.02**	**0.02**	**0.01**	**0.00**	**0.02**	**0.01**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
1.49	**1.87**	**3.11**	**0.71**	**2.07**	**6.11**	**4.78**	**6.72**	**1.43**	**2.72**	**1.68**	**2.72**	**1.62**	**2.27**	**10.47**	**0.93**	**1.68**	**23.32**	**1.90**	**5.54**	**8.13**	**1.87**	**0.51**	**5.76**	**2.20**

0	0	0	0	0	9.31E-05	5.33E-05	0.000116	2.47E-05	0	0	0	0	0	0.000106	1.61E-05	0	0.00037	3.27E-05	7.75E-05	0.00014	3.22E-05	0	0	0
0	0	0	0	0	5.21E-05	2.99E-05	6.48E-05	1.38E-05	0	0	0	0	0	5.92E-05	9.02E-06	0	0.000207	1.83E-05	4.34E-05	7.84E-05	1.8E-05	0	0	0
0	0	0	0	0	4.6E-06	2.63E-06	5.71E-06	1.22E-06	0	0	0	0	0	5.22E-06	7.95E-07	0	1.83E-05	1.61E-06	3.83E-06	6.91E-06	1.59E-06	0	0	0
0	0	0	0	0	2.28E-06	1.3E-06	2.83E-06	6.03E-07	0	0	0	0	0	2.58E-06	3.94E-07	0	9.05E-06	8E-07	1.89E-06	3.42E-06	7.87E-07	0	0	0
-	-	-	-	-	**0.00**	**0.00**	**0.00**	**0.00**	-	-	-	-	-	**0.00**	**0.00**	-	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	-	-	-
-	-	-	-	-	**0.28**	**0.16**	**0.34**	**0.07**	-	-	-	-	-	**0.31**	**0.05**	-	**1.10**	**0.10**	**0.23**	**0.42**	**0.10**	-	-	-
-	-	-	-	-	**0.05**	**0.03**	**0.06**	**0.01**	-	-	-	-	-	**0.06**	**0.01**	-	**0.20**	**0.02**	**0.04**	**0.08**	**0.02**	-	-	-
-	-	-	-	-	**100.99**	**57.86**	**125.56**	**26.75**	-	-	-	-	-	**114.65**	**17.47**	-	**401.81**	**35.49**	**84.07**	**151.77**	**34.93**	-	-	-

Cis-2-pentene	N-tridecane	N-Tetradecane	N-Pentadecane	N-heptadecane	Trans-2-pentene	1-Methylcyclopentene	1-undecene	1-decene	2,3,5-trimethylhexane	1-Methyl-3-propylbenzene	N-undecane	2,6-dimethyloctane	2,4-dimethylheptane	2,5-dimethylheptane	3-methyloctane	4-methyloctane	2-methyloctane	2,2,5-trimethylhexane	Trans-2-hexene	Crotonaldehyde	T-2-Nonene	2-methyldecane	2,3-dimethyloctane	Cis-2-hexene
0.000139	0.000269	0.000209	8.70E-05	4.53E-06	0.000181			9.31E-05			0.000223								1.51E-05	0.00052				
7.78E-05	0.000151	0.000117	4.88E-05	2.54E-06	0.000101			5.21E-05			0.000125								8.45E-06	0.000291				
0.000137	0.000266	0.000207	8.60E-05	4.48E-06	0.000178			9.19E-05			0.000221								1.49E-05	0.000513				
6.79E-05	0.000132	0.000102	4.26E-05	2.22E-06	8.83E-05			4.55E-05			0.000109								7.39E-06	0.000254				
8.60E-06					7.28E-06	2.65E-07	1.25E-06		7.05E-07	1.42E-06	1.25E-06	6.17E-07	7.05E-07	1.16E-06	2.74E-06	3.46E-06	3.53E-07	2.13E-06		7.50E-06	1.51E-06	5.59E-06	4.61E-06	9.70E-07
7.94E-07	1.54E-06	1.20E-06	4.96E-07	2.20E-08	1.04E-06			5.29E-07			1.28E-06								8.82E-08	2.98E-06				
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.45	**0.84**	**0.66**	**0.27**	**0.01**	**0.58**	**0.00**	**0.00**	**0.29**	**0.00**	**0.00**	**0.70**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.05**	**1.64**	**0.00**	**0.01**	**0.01**	**0.00**
0.08	**0.15**	**0.12**	**0.05**	**0.00**	**0.11**	**0.00**	**0.00**	**0.05**	**0.00**	**0.00**	**0.13**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.30**	**0.00**	**0.00**	**0.00**	**0.00**
165.02	**307.71**	**239.27**	**99.50**	**5.17**	**211.79**	**0.19**	**0.91**	**106.40**	**0.51**	**1.04**	**256.28**	**0.45**	**0.51**	**0.84**	**2.00**	**2.53**	**0.26**	**1.55**	**17.25**	**599.60**	**1.10**	**4.08**	**3.36**	**0.71**

7.94E-07	1.54E-06	1.20E-06	4.96E-07	2.20E-08	1.04E-06	0.00E+00	0.00E+00	5.29E-07	0.00E+00	0.00E+00	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.82E-08	2.98E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.28E-06	2.65E-07	1.25E-06	0.00E+00	7.05E-07	1.42E-06	1.25E-06	6.17E-07	7.05E-07	1.16E-06	2.74E-06	3.46E-06	3.53E-07	2.13E-06	0.00E+00	7.50E-06	1.51E-06	5.59E-06	4.61E-06	9.70E-07
6.86E-06	1.33E-05	1.03E-05	4.30E-06	2.24E-07	8.92E-06	0.00E+00	0.00E+00	4.60E-06	0.00E+00	0.00E+00	1.10E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.45E-07	2.57E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3.4E-06	6.58E-06	5.12E-06	2.13E-06	1.11E-07	4.42E-06	0	0	2.28E-06	0	0	5.46E-06	0	0	0	0	0	0	0	3.69E-07	1.27E-05	0	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.04	**0.04**	**0.03**	**0.01**	**0.00**	**0.04**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.10**	**0.00**	**0.01**	**0.01**	**0.00**
0.01	**0.01**	**0.01**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**
14.34	**15.63**	**12.16**	**5.05**	**0.26**	**15.80**	**0.19**	**0.91**	**5.40**	**0.51**	**1.04**	**13.88**	**0.45**	**0.51**	**0.84**	**2.00**	**2.53**	**0.26**	**1.55**	**0.88**	**35.65**	**1.10**	**4.08**	**3.36**	**0.71**

0.000139	0.000269	0.000209	8.7E-05	4.53E-06	0.000181	0	0	9.31E-05	0	0	0.000223	0	0	0	0	0	0	0	1.51E-05	0.00052	0	0	0	0
7.78E-05	0.000151	0.000117	4.88E-05	2.54E-06	0.000101	0	0	5.21E-05	0	0	0.000125	0	0	0	0	0	0	0	8.45E-06	0.000291	0	0	0	0
6.86E-06	1.33E-05	1.03E-05	4.3E-06	2.24E-07	8.92E-06	0	0	4.6E-06	0	0	1.1E-05	0	0	0	0	0	0	0	7.45E-07	2.57E-05	0	0	0	0
3.4E-06	6.58E-06	5.12E-06	2.13E-06	1.11E-07	4.42E-06	0	0	2.28E-06	0	0	5.46E-06	0	0	0	0	0	0	0	3.69E-07	1.27E-05	0	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	-	-	**0.00**	-	-	**0.00**	-	-	-	-	-	-	-	**0.00**	**0.00**	-	-	-	-
0.41	**0.80**	**0.62**	**0.26**	**0.01**	**0.54**	-	-	**0.28**	-	-	**0.66**	-	-	-	-	-	-	-	**0.04**	**1.55**	-	-	-	-
0.08	**0.15**	**0.11**	**0.05**	**0.00**	**0.10**	-	-	**0.05**	-	-	**0.12**	-	-	-	-	-	-	-	**0.01**	**0.28**	-	-	-	-
150.68	**292.08**	**227.11**	**94.45**	**4.91**	**195.99**	-	-	**100.99**	-	-	**242.40**	-	-	-	-	-	-	-	**16.37**	**563.95**	-	-	-	-

Heptene	Dimethyl napthalene	C-1 Compounds	C-10 Compounds	C-10 Olefins	C-10 Paraffins	C-11 Compounds	C-12 Compounds	C-13 Compounds	C-14 Alkane	C-14 Compounds	C-15 Alkane	C-15 Compounds	C-16 Alkane	C-16 Compounds	C-17 Compounds	C-18 Alkane	C-18 Compounds	C-19 Compounds	C-2 Compounds	C-20 Compounds	C-21 Compounds	C-22 Compounds	C-23 Compounds	C-24 Compounds
0.00022	4.53E-05			0.00294	0.007349				9.36E-05		8.91E-05		7.35E-05			1.00E-06								
0.000123	2.54E-05			0.001647	0.004117				5.24E-05		4.99E-05		4.11E-05			5.62E-07								
0.000218	4.47E-05			0.002903	0.007257				9.24E-05		8.79E-05		7.25E-05			9.92E-07								
0.000108	2.21E-05			0.001438	0.003593				4.58E-05		4.35E-05		3.59E-05			4.96E-07								
		4.31E-05	2.61E-05			2.66E-05	1.63E-05	2.55E-05		3.30E-05		3.23E-05		2.59E-05	2.27E-05		1.51E-05	1.16E-05	0.000148	6.76E-06	5.57E-06	4.38E-06	3.56E-06	3.56E-06
1.27E-06	2.65E-07			1.69E-05	4.22E-05				5.40E-07		5.07E-07		4.19E-07			1.10E-08								
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.69	**0.14**	**0.09**	**0.05**	**9.21**	**23.02**	**0.05**	**0.03**	**0.05**	**0.29**	**0.07**	**0.28**	**0.06**	**0.23**	**0.05**	**0.05**	**0.00**	**0.03**	**0.02**	**0.30**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
0.13	**0.03**	**0.02**	**0.01**	**1.68**	**4.20**	**0.01**	**0.01**	**0.01**	**0.05**	**0.01**	**0.05**	**0.01**	**0.04**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
251.92	**51.77**	**31.44**	**19.08**	**3,360.66**	**8,400.77**	**19.41**	**11.93**	**18.60**	**106.98**	**24.12**	**101.80**	**23.59**	**83.97**	**18.92**	**16.59**	**1.15**	**11.06**	**8.46**	**108.21**	**4.93**	**4.06**	**3.19**	**2.60**	**2.60**

1.27E-06	2.65E-07	0.00E+00	0.00E+00	1.69E-05	4.22E-05	0.00E+00	0.00E+00	0.00E+00	5.40E-07	0.00E+00	5.07E-07	0.00E+00	4.19E-07	0.00E+00	0.00E+00	1.10E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	4.31E-05	2.61E-05	0.00E+00	0.00E+00	2.66E-05	1.63E-05	2.55E-05	0.00E+00	3.30E-05	0.00E+00	3.23E-05	0.00E+00	2.59E-05	2.27E-05	0.00E+00	1.51E-05	1.16E-05	1.48E-04	6.76E-06	5.57E-06	4.38E-06	3.56E-06	3.56E-06
1.09E-05	2.24E-06	0.00E+00	0.00E+00	1.45E-04	3.63E-04	0.00E+00	0.00E+00	0.00E+00	4.62E-06	0.00E+00	4.40E-06	0.00E+00	3.63E-06	0.00E+00	0.00E+00	4.96E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5.39E-06	1.11E-06	0	0	7.19E-05	0.00018	0	0	0	2.29E-06	0	2.18E-06	0	1.8E-06	0	0	2.48E-08	0	0	0	0	0	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.04	**0.01**	**0.09**	**0.05**	**0.47**	**1.17**	**0.05**	**0.03**	**0.05**	**0.01**	**0.07**	**0.01**	**0.06**	**0.01**	**0.05**	**0.05**	**0.00**	**0.03**	**0.02**	**0.30**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
0.01	**0.00**	**0.02**	**0.01**	**0.09**	**0.21**	**0.01**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
12.80	**2.63**	**31.44**	**19.08**	**170.74**	**426.81**	**19.41**	**11.93**	**18.60**	**5.44**	**24.12**	**5.17**	**23.59**	**4.26**	**18.92**	**16.59**	**0.06**	**11.06**	**8.46**	**108.21**	**4.93**	**4.06**	**3.19**	**2.60**	**2.60**

0.00022	4.53E-05	0	0	0.00294	0.007349	0	0	0	9.36E-05	0	8.91E-05	0	7.35E-05	0	0	1E-06	0	0	0	0	0	0	0	0
0.000123	2.54E-05	0	0	0.001647	0.004117	0	0	0	5.24E-05	0	4.99E-05	0	4.11E-05	0	0	5.62E-07	0	0	0	0	0	0	0	0
1.09E-05	2.24E-06	0	0	0.000145	0.000363	0	0	0	4.62E-06	0	4.4E-06	0	3.63E-06	0	0	4.96E-08	0	0	0	0	0	0	0	0
5.39E-06	1.11E-06	0	0	7.19E-05	0.00018	0	0	0	2.29E-06	0	2.18E-06	0	1.8E-06	0	0	2.48E-08	0	0	0	0	0	0	0	0
0.00	**0.00**	**-**	**-**	**0.00**	**0.01**	**-**	**-**	**-**	**0.00**	**-**	**0.00**	**-**	**0.00**	**-**	**-**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
0.66	**0.13**	**-**	**-**	**8.74**	**21.85**	**-**	**-**	**-**	**0.28**	**-**	**0.26**	**-**	**0.22**	**-**	**-**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
0.12	**0.02**	**-**	**-**	**1.59**	**3.99**	**-**	**-**	**-**	**0.05**	**-**	**0.05**	**-**	**0.04**	**-**	**-**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
239.12	**49.13**	**-**	**-**	**3,189.91**	**7,973.96**	**-**	**-**	**-**	**101.55**	**-**	**96.63**	**-**	**79.70**	**-**	**-**	**1.09**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

C-25 Compounds	C-26 Compounds	C-27 Compounds	C-28 Compounds	C-29 Compounds	C-3 Compounds	C-30 Compounds	C-31 Compounds	C-32 Compounds	C-33 Compounds	C-34 Compounds	C-35 Compounds	C-36 Compounds	C-37 Compounds	C-38 Compounds	C-39 Compounds	C-4 Compounds	C-40 Compounds	C-41 Compounds	C-42 Compounds	C-43 compounds	C-5 Compounds	C-6 Compounds	C-7 Compounds	C-8 Compounds
4.01E-06	3.26E-06	1.63E-06	2.38E-06	1.04E-06	3.87E-05	2.38E-06	2.15E-06	2.01E-06	1.63E-06	1.79E-06	1.19E-06	1.49E-06	5.95E-07	3.75E-07	8.16E-07	3.03E-05	1.43E-07	3.75E-07	1.43E-07	7.72E-08	1.75E-05	3.19E-05	2.15E-05	8.39E-06
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.04	0.06	0.04	0.02
0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00
2.93	2.38	1.19	1.74	0.76	28.24	1.74	1.57	1.46	1.19	1.30	0.87	1.09	0.43	0.27	0.60	22.12	0.10	0.27	0.10	0.06	12.79	23.31	15.67	6.12
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4.01E-06	3.26E-06	1.63E-06	2.38E-06	1.04E-06	3.87E-05	2.38E-06	2.15E-06	2.01E-06	1.63E-06	1.79E-06	1.19E-06	1.49E-06	5.95E-07	3.75E-07	8.16E-07	3.03E-05	1.43E-07	3.75E-07	1.43E-07	7.72E-08	1.75E-05	3.19E-05	2.15E-05	8.39E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.04	0.06	0.04	0.02
0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00
2.93	2.38	1.19	1.74	0.76	28.24	1.74	1.57	1.46	1.19	1.30	0.87	1.09	0.43	0.27	0.60	22.12	0.10	0.27	0.10	0.06	12.79	23.31	15.67	6.12
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

C-9 Compounds	Cyclopentylcyclopentane	Hexyne	Methylcyclooctane	Pentyne	T-1-Phenylbutene	Decanol	Dodecanol
						0.00294	0.00147
						0.001647	0.000823
						0.002903	0.001451
						0.001438	0.000719
5.57E-06	4.08E-06	1.76E-07	2.92E-06	1.69E-06	2.04E-06		
						1.69E-05	8.43E-06
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.01	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**9.21**	**4.60**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.68**	**0.84**
4.06	**2.98**	**0.13**	**2.13**	**1.23**	**1.49**	**3,360.66**	**1,680.04**

0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-05	8.43E-06
5.57E-06	4.08E-06	1.76E-07	2.92E-06	1.69E-06	2.04E-06	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-04	7.26E-05
0	0	0	0	0	0	7.19E-05	3.59E-05
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.01	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.47**	**0.23**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**	**0.04**
4.06	**2.98**	**0.13**	**2.13**	**1.23**	**1.49**	**170.74**	**85.36**

0	0	0	0	0	0	0.00294	0.00147
0	0	0	0	0	0	0.001647	0.000823
0	0	0	0	0	0	0.000145	7.26E-05
0	0	0	0	0	0	7.19E-05	3.59E-05
-	**-**	**-**	**-**	**-**	**-**	**0.00**	**0.00**
-	**-**	**-**	**-**	**-**	**-**	**8.74**	**4.37**
-	**-**	**-**	**-**	**-**	**-**	**1.59**	**0.80**
-	**-**	**-**	**-**	**-**	**-**	**3,189.91**	**1,594.68**

ATTACHMENT B - March Air Reserve Base - D1 Project - General Aviation Fleet Scenario - Speciated Organic Gases and Hazardous Air Pollutants - April 2022

Combined on and off-site

Mode	Formaldehyde (IRIS, CAA)	Methyl alcohol (IRIS, CAA)	Benzene (IRIS, CAA)	C-5 Benzene + C-4 Aroald	C-4 Benzene + C-3 Aroald	Acetaldehyde (IRIS, CAA)	Naphthalene (IRIS, CAA)	O-xylene (IRIS, CAA)	Isopropyl benzene (cumene) (IRIS, CAA)	Ethylbenzene (IRIS, CAA)	Styrene (IRIS, CAA)	M & P-xylene (IRIS, CAA)	1,3-butadiene (IRIS, CAA)	Acrolein (IRIS, CAA)	M-xylene (IRIS, CAA)	Toluene (IRIS, CAA)	Phenol (carbolic acid) (IRIS, CAA)	N-hexane (IRIS, CAA)	2,2,4-trimethyl pentane (IRIS, CAA)	Propional dehyde (CAA)	Acetone (IRIS)	2-methylnaphthalene (IRIS)
Departure Below Mixing Height	0.00088905	0.00013	0.000121	2.34E-05	4.74E-05	0.000309	3.91E-05	1.20E-05	2.20E-07	1.26E-05	2.23E-05	2.04E-05	0.000122	0.000177		4.64E-05	5.24E-05			5.25E-05	2.67E-05	1.49E-05
Arrival Below Mixing Height	0.00060079	8.81E-05	8.20E-05	1.58E-05	3.20E-05	0.000209	2.64E-05	8.10E-06	1.43E-07	8.49E-06	1.51E-05	1.38E-05	8.23E-05	0.00012		3.13E-05	3.54E-05			3.55E-05	1.80E-05	1.01E-05
DepartureTaxi	0.00083326	0.000122	0.000114	2.19E-05	4.44E-05	0.000289	3.66E-05	1.12E-05	1.98E-07	1.18E-05	2.09E-05	1.91E-05	0.000114	0.000166		4.35E-05	4.91E-05			4.92E-05	2.50E-05	1.39E-05
ArrivalTaxi	0.00041468	6.08E-05	5.66E-05	1.09E-05	2.21E-05	0.000144	1.82E-05	5.59E-06	9.92E-08	5.86E-06	1.04E-05	9.50E-06	5.68E-05	8.25E-05		2.16E-05	2.45E-05			2.45E-05	1.24E-05	6.94E-06
Ground Service Equipment	2.58E-05		2.42E-05			8.74E-06		1.26E-05		9.25E-06					2.57E-05	4.11E-05		2.11E-05	2.07E-05	5.31E-06		
Aircraft Auxiliary Power Units	2.73E-05	4.00E-06	3.73E-06	7.17E-07	1.46E-06	9.48E-06	1.20E-06	3.64E-07	1.10E-08	3.86E-07	6.83E-07	6.28E-07	3.75E-06	5.43E-06		1.42E-06	1.61E-06			1.61E-06	8.16E-07	4.52E-07
DAILY TOTAL (ST)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
DAILY TOTAL (LBS)	**3.09**	**0.44**	**0.46**	**0.08**	**0.16**	**1.07**	**0.13**	**0.07**	**0.00**	**0.06**	**0.08**	**0.07**	**0.42**	**0.60**	**0.05**	**0.24**	**0.18**	**0.04**	**0.04**	**0.19**	**0.09**	**0.05**
ANNUAL TOTAL (ST)	**0.56**	**0.08**	**0.08**	**0.01**	**0.03**	**0.20**	**0.02**	**0.01**	**0.00**	**0.01**	**0.01**	**0.01**	**0.08**	**0.11**	**0.01**	**0.04**	**0.03**	**0.01**	**0.01**	**0.03**	**0.02**	**0.01**
ANNUAL TOTAL (LBS)	**1,126.39**	**162.39**	**168.88**	**29.15**	**59.02**	**390.73**	**48.68**	**24.11**	**0.27**	**22.40**	**27.80**	**25.38**	**151.78**	**220.33**	**18.75**	**87.80**	**65.32**	**15.42**	**15.12**	**69.28**	**33.20**	**18.53**

On-Site

Mode	Formaldehyde (IRIS, CAA)	Methyl alcohol (IRIS, CAA)	Benzene (IRIS, CAA)	C-5 Benzene + C-4 Aroald	C-4 Benzene + C-3 Aroald	Acetaldehyde (IRIS, CAA)	Naphthalene (IRIS, CAA)	O-xylene (IRIS, CAA)	Isopropyl benzene (cumene) (IRIS, CAA)	Ethylbenzene (IRIS, CAA)	Styrene (IRIS, CAA)	M & P-xylene (IRIS, CAA)	1,3-butadiene (IRIS, CAA)	Acrolein (IRIS, CAA)	M-xylene (IRIS, CAA)	Toluene (IRIS, CAA)	Phenol (carbolic acid) (IRIS, CAA)	N-hexane (IRIS, CAA)	2,2,4-trimethyl pentane (IRIS, CAA)	Propional dehyde (CAA)	Acetone (IRIS)	2-methylnaphthalene (IRIS)
Aircraft Auxiliary Power Units	2.73E-05	4.00E-06	3.73E-06	7.17E-07	1.46E-06	9.48E-06	1.20E-06	3.64E-07	1.10E-08	3.86E-07	6.83E-07	6.28E-07	3.75E-06	5.43E-06	0.00E+00	1.42E-06	1.61E-06	0.00E+00	0.00E+00	1.61E-06	8.16E-07	4.52E-07
Ground Service Equipment	2.58E-05	0.00E+00	2.42E-05	0.00E+00	0.00E+00	8.74E-06	0.00E+00	1.26E-05	0.00E+00	9.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.57E-05	4.11E-05	0.00E+00	2.11E-05	2.07E-05	5.31E-06	0.00E+00	0.00E+00
Taxi out - 5% Assigned **	4.17E-05	6.11E-06	5.69E-06	1.10E-06	2.22E-06	1.45E-05	1.83E-06	5.62E-07	9.92E-09	5.89E-07	1.05E-06	9.55E-07	5.71E-06	8.29E-06	0.00E+00	2.17E-06	2.46E-06	0.00E+00	0.00E+00	2.46E-06	1.25E-06	6.97E-07
Taxi in - 5% Assigned **	2.0734E-05	3.04E-06	2.83E-06	5.46E-07	1.11E-06	7.2E-06	9.11E-07	2.79E-07	4.96E-09	2.93E-07	5.2E-07	4.75E-07	2.84E-06	4.12E-06	0	1.08E-06	1.22E-06	0	0	1.22E-06	6.22E-07	3.47E-07
DAILY ON-SITE TOTAL (ST)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
DAILY ON-SITE TOTAL (LBS)	**0.23**	**0.03**	**0.07**	**0.00**	**0.01**	**0.08**	**0.01**	**0.03**	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.04**	**0.05**	**0.09**	**0.01**	**0.04**	**0.04**	**0.02**	**0.01**	**0.00**
ANNUAL ON-SITE TOTAL (ST)	**0.04**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**
ANNUAL ON-SITE TOTAL (LBS)	**84.36**	**9.60**	**26.58**	**1.72**	**3.49**	**29.11**	**2.88**	**10.05**	**0.02**	**7.68**	**1.64**	**1.50**	**8.98**	**13.03**	**18.75**	**33.45**	**3.86**	**15.42**	**15.12**	**7.74**	**1.96**	**1.09**

Off-Site

Mode	Formaldehyde (IRIS, CAA)	Methyl alcohol (IRIS, CAA)	Benzene (IRIS, CAA)	C-5 Benzene + C-4 Aroald	C-4 Benzene + C-3 Aroald	Acetaldehyde (IRIS, CAA)	Naphthalene (IRIS, CAA)	O-xylene (IRIS, CAA)	Isopropyl benzene (cumene) (IRIS, CAA)	Ethylbenzene (IRIS, CAA)	Styrene (IRIS, CAA)	M & P-xylene (IRIS, CAA)	1,3-butadiene (IRIS, CAA)	Acrolein (IRIS, CAA)	M-xylene (IRIS, CAA)	Toluene (IRIS, CAA)	Phenol (carbolic acid) (IRIS, CAA)	N-hexane (IRIS, CAA)	2,2,4-trimethyl pentane (IRIS, CAA)	Propional dehyde (CAA)	Acetone (IRIS)	2-methylnaphthalene (IRIS)
Departure Below Mixing Height	0.00088905	0.00013	0.000121	2.34E-05	4.74E-05	0.000309	3.91E-05	1.2E-05	2.2E-07	1.26E-05	2.23E-05	2.04E-05	0.000122	0.000177	0	4.64E-05	5.24E-05	0	0	5.25E-05	2.67E-05	1.49E-05
Arrival Below Mixing Height	0.00060079	8.81E-05	8.2E-05	1.58E-05	3.2E-05	0.000209	2.64E-05	8.1E-06	1.43E-07	8.49E-06	1.51E-05	1.38E-05	8.23E-05	0.00012	0	3.13E-05	3.54E-05	0	0	3.55E-05	1.8E-05	1.01E-05
Taxi out - 5% subtracted out **	4.1663E-05	6.11E-06	5.69E-06	1.1E-06	2.22E-06	1.45E-05	1.83E-06	5.62E-07	9.92E-09	5.89E-07	1.05E-06	9.55E-07	5.71E-06	8.29E-06	0	2.17E-06	2.46E-06	0	0	2.46E-06	1.25E-06	6.97E-07
Taxi in - 5% subtracted out **	2.0734E-05	3.04E-06	2.83E-06	5.46E-07	1.11E-06	7.2E-06	9.11E-07	2.79E-07	4.96E-09	2.93E-07	5.2E-07	4.75E-07	2.84E-06	4.12E-06	0	1.08E-06	1.22E-06	0	0	1.22E-06	6.22E-07	3.47E-07
DAILY ON-SITE TOTAL (ST)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**0.00**	**0.00**	**-**	**-**	**0.00**	**0.00**	**0.00**
DAILY ON-SITE TOTAL (LBS)	**2.85**	**0.42**	**0.39**	**0.08**	**0.15**	**0.99**	**0.13**	**0.04**	**0.00**	**0.04**	**0.07**	**0.07**	**0.39**	**0.57**	**-**	**0.15**	**0.17**	**-**	**-**	**0.17**	**0.09**	**0.05**
ANNUAL ON-SITE TOTAL (ST)	**0.52**	**0.08**	**0.07**	**0.01**	**0.03**	**0.18**	**0.02**	**0.01**	**0.00**	**0.01**	**0.01**	**0.01**	**0.07**	**0.10**	**-**	**0.03**	**0.03**	**-**	**-**	**0.03**	**0.02**	**0.01**
ANNUAL ON-SITE TOTAL (LBS)	**1,042.03**	**152.79**	**142.30**	**27.43**	**55.53**	**361.62**	**45.80**	**14.06**	**0.25**	**14.73**	**26.16**	**23.88**	**142.80**	**207.30**	**-**	**54.35**	**61.46**	**-**	**-**	**61.54**	**31.24**	**17.44**

* Speciated Organic Gasses and Hazardous Air Pollutant information is not available for aircraft engine startup
** Sub totals above for on-site and off-site assume that 5% of taxiing aircraft emissions occur within the project boundary and 95% occur outside of the project boundary
** For off-site sub totals, taxi emissions are included in the "departure below mixing height" and "arrival below mixing height". Therefore, 5% of taxi emissions are subtracted from the off-site sub total to reflect 95% of all taxi emissions occuring off-site.
* Blank cells reflect data not available

Benzaldehyde (IRIS)	N-heptane (IRIS)	Hexaldehyde	Methane	Ethane	Ethylene	Acetylene	Propane	1-propyne	Isobutane	2,2-dimethyl butane	Isopentane	Isoprene	2-methyl-2-propenal (methacrolein)	Methylglyoxal	2,3-dimethyl butane	1-Methylnaphthalene	1,2,4-trimethyl benzene (1,3,4-trimethyl benzene)	3-methylpentane	Methylcyclopentane	N-propylbenzene	N-butylbenzene	p-Tolualdehyde	N-butane	4-Phenyl-1-butene
3.39E-05	4.62E-06			3.76E-05	0.001117	0.000284	5.63E-06						3.10E-05	0.000109		1.78E-05	2.53E-05			3.83E-06		3.46E-06		
2.29E-05	3.12E-06			2.54E-05	0.000755	0.000192	3.80E-06						2.09E-05	7.34E-05		1.21E-05	1.71E-05			2.59E-06		2.35E-06		
3.18E-05	4.33E-06			3.53E-05	0.001047	0.000267	5.28E-06						2.90E-05	0.000102		1.67E-05	2.37E-05			3.58E-06		3.25E-06		
1.58E-05	2.16E-06			1.75E-05	0.000521	0.000133	2.62E-06						1.45E-05	5.06E-05		8.32E-06	1.18E-05			1.79E-06		1.62E-06		
1.65E-06	1.01E-05	2.43E-07	3.38E-05	9.52E-06	6.01E-05	3.67E-05		3.32E-06	4.74E-05	3.04E-06	0.000152	1.38E-06			1.35E-05		1.99E-05	2.13E-05	1.53E-05	4.28E-06	2.90E-06		0.00031	3.59E-06
1.05E-06	1.43E-07			1.16E-06	3.43E-05	8.74E-06	1.76E-07						9.48E-07	3.34E-06		5.51E-07	7.72E-07			1.21E-07		1.10E-07		
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.12	**0.04**	**0.00**	**0.07**	**0.15**	**3.93**	**1.04**	**0.02**	**0.01**	**0.09**	**0.01**	**0.30**	**0.00**	**0.11**	**0.37**	**0.03**	**0.06**	**0.13**	**0.04**	**0.03**	**0.02**	**0.01**	**0.01**	**0.62**	**0.01**
0.02	**0.01**	**0.00**	**0.01**	**0.03**	**0.72**	**0.19**	**0.00**	**0.00**	**0.02**	**0.00**	**0.06**	**0.00**	**0.02**	**0.07**	**0.00**	**0.01**	**0.02**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**
43.49	**13.11**	**0.18**	**24.70**	**53.83**	**1,434.87**	**381.20**	**7.02**	**2.42**	**34.57**	**2.22**	**111.27**	**1.01**	**38.59**	**135.23**	**9.87**	**22.23**	**46.00**	**15.52**	**11.19**	**7.89**	**2.12**	**4.32**	**225.97**	**2.62**

1.05E-06	1.43E-07	0.00E+00	0.00E+00	1.16E-06	3.43E-05	8.74E-06	1.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.48E-07	3.34E-06	0.00E+00	5.51E-07	7.72E-07	0.00E+00	0.00E+00	1.21E-07	0.00E+00	1.10E-07	0.00E+00	0.00E+00
1.65E-06	1.01E-05	2.43E-07	3.38E-05	9.52E-06	6.01E-05	3.67E-05	0.00E+00	3.32E-06	4.74E-05	3.04E-06	1.52E-04	1.38E-06	0.00E+00	0.00E+00	1.35E-05	0.00E+00	1.99E-05	2.13E-05	1.53E-05	4.28E-06	2.90E-06	0.00E+00	3.10E-04	3.59E-06
1.59E-06	2.17E-07	0.00E+00	0.00E+00	1.76E-06	5.23E-05	1.33E-05	2.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-06	5.09E-06	0.00E+00	8.36E-07	1.18E-06	0.00E+00	0.00E+00	1.79E-07	0.00E+00	1.63E-07	0.00E+00	0.00E+00
7.91E-07	1.08E-07	0	0	8.77E-07	2.6E-05	6.63E-06	1.31E-07	0	0	0	0	0	7.23E-07	2.53E-06	0	4.16E-07	5.9E-07	0	0	8.93E-08	0	8.1E-08	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.01	**0.02**	**0.00**	**0.07**	**0.03**	**0.35**	**0.13**	**0.00**	**0.01**	**0.09**	**0.01**	**0.30**	**0.00**	**0.01**	**0.02**	**0.03**	**0.00**	**0.04**	**0.04**	**0.03**	**0.01**	**0.01**	**0.00**	**0.62**	**0.01**
0.00	**0.00**	**0.00**	**0.01**	**0.00**	**0.06**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**0.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**
3.71	**7.70**	**0.18**	**24.70**	**9.73**	**126.11**	**47.77**	**0.42**	**2.42**	**34.57**	**2.22**	**111.27**	**1.01**	**2.28**	**8.00**	**9.87**	**1.32**	**16.37**	**15.52**	**11.19**	**3.41**	**2.12**	**0.26**	**225.97**	**2.62**

3.39E-05	4.62E-06	0	0	3.76E-05	0.001117	0.000284	5.63E-06	0	0	0	0	0	3.1E-05	0.000109	0	1.78E-05	2.53E-05	0	0	3.83E-06	0	3.46E-06	0	0
2.29E-05	3.12E-06	0	0	2.54E-05	0.000755	0.000192	3.8E-06	0	0	0	0	0	2.09E-05	7.34E-05	0	1.21E-05	1.71E-05	0	0	2.59E-06	0	2.35E-06	0	0
1.59E-06	2.17E-07	0	0	1.76E-06	5.23E-05	1.33E-05	2.64E-07	0	0	0	0	0	1.45E-06	5.09E-06	0	8.36E-07	1.18E-06	0	0	1.79E-07	0	1.63E-07	0	0
7.91E-07	1.08E-07	0	0	8.77E-07	2.6E-05	6.63E-06	1.31E-07	0	0	0	0	0	7.23E-07	2.53E-06	0	4.16E-07	5.9E-07	0	0	8.93E-08	0	8.1E-08	0	0
0.00	**0.00**	-	-	**0.00**	**0.00**	**0.00**	**0.00**	-	-	-	-	-	**0.00**	**0.00**	-	**0.00**	**0.00**	-	-	**0.00**	-	**0.00**	-	-
0.11	**0.01**	-	-	**0.12**	**3.59**	**0.91**	**0.02**	-	-	-	-	-	**0.10**	**0.35**	-	**0.06**	**0.08**	-	-	**0.01**	-	**0.01**	-	-
0.02	**0.00**	-	-	**0.02**	**0.65**	**0.17**	**0.00**	-	-	-	-	-	**0.02**	**0.06**	-	**0.01**	**0.01**	-	-	**0.00**	-	**0.00**	-	-
39.78	**5.41**	-	-	**44.10**	**1,308.76**	**333.44**	**6.60**	-	-	-	-	-	**36.31**	**127.23**	-	**20.91**	**29.63**	-	-	**4.49**	-	**4.06**	-	-

3-methyl-1-butene	2-methyl-1-butene	1-butene	Glyoxal	2,4,4-trimethyl-1-pentene	2-methylpentane	2,4-dimethylpentane	1,3,5-trimethylbenzene	Methylcyclohexane	N-pentane	1-pentene	2-methyl-1-pentene	4-methyl-1-pentene	Valeraldehyde	Cyclohexene	N-octane	1-octene	N-nonane	N-dodecane	Propylene	Butyraldehyde	1-nonene	N-decane	1,2-diethylbenzene (ortho)	(1-Methylpropyl)benzene
8.09E-06	1.01E-05	0.000127	0.000131		2.95E-05		3.90E-06		1.43E-05	5.60E-05	2.46E-06	4.98E-06	1.77E-05		4.48E-06	1.99E-05	4.48E-06	3.34E-05	0.000327	8.60E-06	1.78E-05	2.31E-05		
5.47E-06	6.83E-06	8.56E-05	8.86E-05		1.99E-05		2.63E-06		9.67E-06	3.79E-05	1.66E-06	3.37E-06	1.20E-05		3.03E-06	1.35E-05	3.03E-06	2.26E-05	0.000221	5.81E-06	1.20E-05	1.56E-05		
7.58E-06	9.48E-06	0.000119	0.000123		2.76E-05		3.66E-06		1.34E-05	5.25E-05	2.30E-06	4.67E-06	1.66E-05		4.20E-06	1.87E-05	4.20E-06	3.13E-05	0.000307	8.06E-06	1.67E-05	2.17E-05		
3.77E-06	4.72E-06	5.91E-05	6.12E-05		1.37E-05		1.82E-06		6.67E-06	2.61E-05	1.15E-06	2.33E-06	8.26E-06		2.08E-06	9.29E-06	2.08E-06	1.56E-05	0.000153	4.01E-06	8.29E-06	1.08E-05		
1.93E-06		1.53E-05		2.39E-05	3.88E-05	8.84E-06	1.67E-05	3.59E-06	6.71E-05	5.67E-06				2.18E-05	3.32E-06		1.52E-06		2.17E-05			1.52E-06	4.14E-06	6.94E-07
2.54E-07	3.09E-07	3.89E-06	4.03E-06		9.04E-07		1.21E-07		4.41E-07	1.72E-06	7.72E-08	1.54E-07	5.40E-07		1.32E-07	6.17E-07	1.32E-07	1.03E-06	1.01E-05	2.65E-07	5.51E-07	7.05E-07		
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.03	**0.03**	**0.46**	**0.45**	**0.05**	**0.18**	**0.02**	**0.05**	**0.01**	**0.18**	**0.20**	**0.01**	**0.02**	**0.06**	**0.04**	**0.02**	**0.07**	**0.02**	**0.11**	**1.16**	**0.03**	**0.06**	**0.08**	**0.01**	**0.00**
0.01	**0.01**	**0.08**	**0.08**	**0.01**	**0.03**	**0.00**	**0.01**	**0.00**	**0.03**	**0.04**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.02**	**0.21**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**
11.49	**12.59**	**168.99**	**163.38**	**17.44**	**65.03**	**6.45**	**17.06**	**2.62**	**66.80**	**73.95**	**3.07**	**6.21**	**22.04**	**15.92**	**8.00**	**24.83**	**6.69**	**41.57**	**423.75**	**10.71**	**22.14**	**29.90**	**3.03**	**0.51**

2.54E-07	3.09E-07	3.89E-06	4.03E-06	0.00E+00	9.04E-07	0.00E+00	1.21E-07	0.00E+00	4.41E-07	1.72E-06	7.72E-08	1.54E-07	5.40E-07	0.00E+00	1.32E-07	6.17E-07	1.32E-07	1.03E-06	1.01E-05	2.65E-07	5.51E-07	7.05E-07	0.00E+00	0.00E+00
1.93E-06	0.00E+00	1.53E-05	0.00E+00	2.39E-05	3.88E-05	8.84E-06	1.67E-05	3.59E-06	6.71E-05	5.67E-06	0.00E+00	0.00E+00	0.00E+00	2.18E-05	3.32E-06	0.00E+00	1.52E-06	0.00E+00	2.17E-05	0.00E+00	0.00E+00	1.52E-06	4.14E-06	6.94E-07
3.79E-07	4.74E-07	5.94E-06	6.15E-06	0.00E+00	1.38E-06	0.00E+00	1.83E-07	0.00E+00	6.70E-07	2.63E-06	1.15E-07	2.34E-07	8.29E-07	0.00E+00	2.10E-07	9.34E-07	2.10E-07	1.56E-06	1.53E-05	4.03E-07	8.33E-07	1.08E-06	0.00E+00	0.00E+00
1.88E-07	2.36E-07	2.95E-06	3.06E-06	0	6.87E-07	0	9.09E-08	0	3.33E-07	1.31E-06	5.73E-08	1.16E-07	4.13E-07	0	1.04E-07	4.65E-07	1.04E-07	7.78E-07	7.64E-06	2.01E-07	4.14E-07	5.39E-07	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.01	**0.00**	**0.06**	**0.03**	**0.05**	**0.08**	**0.02**	**0.03**	**0.01**	**0.14**	**0.02**	**0.00**	**0.00**	**0.00**	**0.04**	**0.01**	**0.00**	**0.00**	**0.01**	**0.11**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**
0.00	**0.00**	**0.01**	**0.00**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
2.01	**0.74**	**20.52**	**9.66**	**17.44**	**30.49**	**6.45**	**12.49**	**2.62**	**50.04**	**8.26**	**0.18**	**0.37**	**1.30**	**15.92**	**2.75**	**1.47**	**1.44**	**2.46**	**39.94**	**0.63**	**1.31**	**2.81**	**3.03**	**0.51**

8.09E-06	1.01E-05	0.000127	0.000131	0	2.95E-05	0	3.9E-06	0	1.43E-05	5.6E-05	2.46E-06	4.98E-06	1.77E-05	0	4.48E-06	1.99E-05	4.48E-06	3.34E-05	0.000327	8.6E-06	1.78E-05	2.31E-05	0	0
5.47E-06	6.83E-06	8.56E-05	8.86E-05	0	1.99E-05	0	2.63E-06	0	9.67E-06	3.79E-05	1.66E-06	3.37E-06	1.2E-05	0	3.03E-06	1.35E-05	3.03E-06	2.26E-05	0.000221	5.81E-06	1.2E-05	1.56E-05	0	0
3.79E-07	4.74E-07	5.94E-06	6.15E-06	0	1.38E-06	0	1.83E-07	0	6.7E-07	2.63E-06	1.15E-07	2.34E-07	8.29E-07	0	2.1E-07	9.34E-07	2.1E-07	1.56E-06	1.53E-05	4.03E-07	8.33E-07	1.08E-06	0	0
1.88E-07	2.36E-07	2.95E-06	3.06E-06	0	6.87E-07	0	9.09E-08	0	3.33E-07	1.31E-06	5.73E-08	1.16E-07	4.13E-07	0	1.04E-07	4.65E-07	1.04E-07	7.78E-07	7.64E-06	2.01E-07	4.14E-07	5.39E-07	0	0
0.00	**0.00**	**0.00**	**0.00**	**-**	**0.00**	**-**	**0.00**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**-**
0.03	**0.03**	**0.41**	**0.42**	**-**	**0.09**	**-**	**0.01**	**-**	**0.05**	**0.18**	**0.01**	**0.02**	**0.06**	**-**	**0.01**	**0.06**	**0.01**	**0.11**	**1.05**	**0.03**	**0.06**	**0.07**	**-**	**-**
0.00	**0.01**	**0.07**	**0.08**	**-**	**0.02**	**-**	**0.00**	**-**	**0.01**	**0.03**	**0.00**	**0.00**	**0.01**	**-**	**0.00**	**0.01**	**0.00**	**0.02**	**0.19**	**0.01**	**0.01**	**0.01**	**-**	**-**
9.48	**11.85**	**148.48**	**153.72**	**-**	**34.53**	**-**	**4.57**	**-**	**16.76**	**65.69**	**2.88**	**5.84**	**20.74**	**-**	**5.25**	**23.36**	**5.25**	**39.11**	**383.80**	**10.08**	**20.82**	**27.09**	**-**	**-**

1,3-diethylbenzene (meta)	Cyclopentene	Cyclopentane	1,2-propadiene	Indan	2-methyl-2-butene	1,2,3-trimethylbenzene	o-Tolualdehyde	N-Hexadecane	2,3,3-trimethylpentane	2,3,4-trimethylpentane	2,4-dimethylhexane	4-methylheptane	3-methylheptane	Cis-2-butene	Isovaleraldehyde	2-methylheptane	1-hexene	1-Methyl-2-ethylbenzene (o-ethyltoluene)	1-Methyl-3-ethylbenzene (m-ethyltoluene)	Tolualdehyde	1-Methyl-4-ethylbenzene (p-ethyltoluene)	Cis-1,4-dimethylcyclohexane	Trans-2-butene	2-methyl-2-pentene
					1.34E-05	7.65E-06	1.66E-05	3.54E-06						1.52E-05	2.31E-06		5.32E-05	4.70E-06	1.11E-05	2.01E-05	4.62E-06			
					9.03E-06	5.17E-06	1.12E-05	2.39E-06						1.03E-05	1.57E-06		3.59E-05	3.17E-06	7.52E-06	1.36E-05	3.12E-06			
					1.25E-05	7.18E-06	1.56E-05	3.32E-06						1.42E-05	2.17E-06		4.98E-05	4.40E-06	1.04E-05	1.88E-05	4.33E-06			
					6.23E-06	3.57E-06	7.75E-06	1.65E-06						7.08E-06	1.08E-06		2.48E-05	2.19E-06	5.19E-06	9.37E-06	2.16E-06			
3.17E-06	4.00E-06	6.62E-06	1.52E-06	4.42E-06	1.52E-06	3.59E-06			5.80E-06	3.59E-06	5.80E-06	3.45E-06	4.83E-06	9.25E-06		3.59E-06	3.87E-06		2.20E-06			1.10E-06	1.23E-05	4.70E-06
					4.08E-07	2.31E-07	5.07E-07	1.10E-07						4.63E-07	6.61E-08		1.63E-06	1.43E-07	3.42E-07	6.17E-07	1.43E-07			
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.01	**0.01**	**0.01**	**0.00**	**0.01**	**0.05**	**0.03**	**0.06**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.07**	**0.01**	**0.01**	**0.19**	**0.02**	**0.04**	**0.07**	**0.02**	**0.00**	**0.02**	**0.01**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**
2.32	**2.92**	**4.84**	**1.11**	**3.23**	**17.75**	**12.15**	**20.69**	**4.41**	**4.23**	**2.62**	**4.23**	**2.52**	**3.52**	**25.65**	**2.88**	**2.62**	**69.04**	**5.85**	**15.47**	**25.01**	**5.75**	**0.80**	**8.97**	**3.43**

0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.08E-07	2.31E-07	5.07E-07	1.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.63E-07	6.61E-08	0.00E+00	1.63E-06	1.43E-07	3.42E-07	6.17E-07	1.43E-07	0.00E+00	0.00E+00	0.00E+00
3.17E-06	4.00E-06	6.62E-06	1.52E-06	4.42E-06	1.52E-06	3.59E-06	0.00E+00	0.00E+00	5.80E-06	3.59E-06	5.80E-06	3.45E-06	4.83E-06	9.25E-06	0.00E+00	3.59E-06	3.87E-06	0.00E+00	2.20E-06	0.00E+00	0.00E+00	1.10E-06	1.23E-05	4.70E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.26E-07	3.59E-07	7.78E-07	1.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.11E-07	1.09E-07	0.00E+00	2.49E-06	2.20E-07	5.21E-07	9.41E-07	2.17E-07	0.00E+00	0.00E+00	0.00E+00
0	0	0	0	0	3.11E-07	1.79E-07	3.87E-07	8.27E-08	0	0	0	0	0	3.54E-07	5.4E-08	0	1.24E-06	1.1E-07	2.6E-07	4.68E-07	1.08E-07	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.01	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.02**	**0.01**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
2.32	**2.92**	**4.84**	**1.11**	**3.23**	**2.09**	**3.18**	**1.22**	**0.26**	**4.23**	**2.62**	**4.23**	**2.52**	**3.52**	**7.87**	**0.17**	**2.62**	**6.74**	**0.35**	**2.43**	**1.48**	**0.34**	**0.80**	**8.97**	**3.43**

0	0	0	0	0	1.34E-05	7.65E-06	1.66E-05	3.54E-06	0	0	0	0	0	1.52E-05	2.31E-06	0	5.32E-05	4.7E-06	1.11E-05	2.01E-05	4.62E-06	0	0	0
0	0	0	0	0	9.03E-06	5.17E-06	1.12E-05	2.39E-06	0	0	0	0	0	1.03E-05	1.57E-06	0	3.59E-05	3.17E-06	7.52E-06	1.36E-05	3.12E-06	0	0	0
0	0	0	0	0	6.26E-07	3.59E-07	7.78E-07	1.66E-07	0	0	0	0	0	7.11E-07	1.09E-07	0	2.49E-06	2.2E-07	5.21E-07	9.41E-07	2.17E-07	0	0	0
0	0	0	0	0	3.11E-07	1.79E-07	3.87E-07	8.27E-08	0	0	0	0	0	3.54E-07	5.4E-08	0	1.24E-06	1.1E-07	2.6E-07	4.68E-07	1.08E-07	0	0	0
-	**-**	**-**	**-**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**-**	**-**	**-**	**-**	**0.00**	**0.00**	**-**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**-**	**-**
-	**-**	**-**	**-**	**-**	**0.04**	**0.02**	**0.05**	**0.01**	**-**	**-**	**-**	**-**	**-**	**0.05**	**0.01**	**-**	**0.17**	**0.02**	**0.04**	**0.06**	**0.01**	**-**	**-**	**-**
-	**-**	**-**	**-**	**-**	**0.01**	**0.00**	**0.01**	**0.00**	**-**	**-**	**-**	**-**	**-**	**0.01**	**0.00**	**-**	**0.03**	**0.00**	**0.01**	**0.01**	**0.00**	**-**	**-**	**-**
-	**-**	**-**	**-**	**-**	**15.66**	**8.97**	**19.47**	**4.15**	**-**	**-**	**-**	**-**	**-**	**17.78**	**2.71**	**-**	**62.30**	**5.50**	**13.04**	**23.53**	**5.41**	**-**	**-**	**-**

Cis-2-pentene	N-tridecane	N-Tetradecane	N-Pentadecane	N-heptadecane	Trans-2-pentene	1-Methylcyclopentene	1-undecene	1-decene	2,3,5-trimethylhexane	1-Methyl-3-propylbenzene	N-undecane	2,6-dimethyloctane	2,4-dimethylheptane	2,5-dimethylheptane	3-methyloctane	4-methyloctane	2-methyloctane	2,2,5-trimethylhexane	Trans-2-hexene	Crotonaldehyde	T-2-Nonene	2-methyldecane	2,3-dimethyloctane	Cis-2-hexene
1.99E-05	3.86E-05	3.00E-05	1.25E-05	6.50E-07	2.59E-05			1.34E-05			3.21E-05								2.17E-06	7.46E-05				
1.35E-05	2.61E-05	2.03E-05	8.44E-06	4.41E-07	1.75E-05			9.03E-06			2.17E-05								1.47E-06	5.04E-05				
1.87E-05	3.62E-05	2.82E-05	1.17E-05	6.06E-07	2.43E-05			1.25E-05			3.00E-05								2.03E-06	6.99E-05				
9.29E-06	1.80E-05	1.40E-05	5.83E-06	3.09E-07	1.21E-05			6.23E-06			1.50E-05								1.01E-06	3.48E-05				
1.34E-05					1.13E-05	4.19E-07	1.93E-06		1.10E-06	2.20E-06	1.93E-06	9.70E-07	1.10E-06	1.80E-06	4.28E-06	5.38E-06	5.51E-07	3.32E-06		3.03E-06	2.35E-06	8.70E-06	7.18E-06	1.52E-06
6.17E-07	1.19E-06	9.26E-07	3.86E-07	2.20E-08	7.94E-07			4.08E-07			9.81E-07								6.61E-08	2.29E-06				
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.09	**0.13**	**0.10**	**0.04**	**0.00**	**0.11**	**0.00**	**0.00**	**0.05**	**0.00**	**0.00**	**0.11**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.26**	**0.00**	**0.02**	**0.01**	**0.00**
0.02	**0.02**	**0.02**	**0.01**	**0.00**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**
34.61	**48.14**	**37.43**	**15.56**	**0.81**	**40.56**	**0.31**	**1.41**	**16.64**	**0.80**	**1.61**	**41.35**	**0.71**	**0.80**	**1.31**	**3.12**	**3.93**	**0.40**	**2.42**	**2.70**	**95.15**	**1.71**	**6.35**	**5.24**	**1.11**

6.17E-07	1.19E-06	9.26E-07	3.86E-07	2.20E-08	7.94E-07	0.00E+00	0.00E+00	4.08E-07	0.00E+00	0.00E+00	9.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.61E-08	2.29E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1.34E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-05	4.19E-07	1.93E-06	0.00E+00	1.10E-06	2.20E-06	1.93E-06	9.70E-07	1.10E-06	1.80E-06	4.28E-06	5.38E-06	5.51E-07	3.32E-06	0.00E+00	3.03E-06	2.35E-06	8.70E-06	7.18E-06	1.52E-06
9.34E-07	1.81E-06	1.41E-06	5.85E-07	3.03E-08	1.22E-06	0.00E+00	0.00E+00	6.26E-07	0.00E+00	0.00E+00	1.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-07	3.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4.65E-07	9.01E-07	7.01E-07	2.92E-07	1.54E-08	6.05E-07	0	0	3.11E-07	0	0	7.48E-07	0	0	0	0	0	0	0	5.07E-08	1.74E-06	0	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.03	**0.01**	**0.01**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.02**	**0.00**	**0.02**	**0.01**	**0.00**
0.01	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
11.25	**2.85**	**2.22**	**0.92**	**0.05**	**10.17**	**0.31**	**1.41**	**0.98**	**0.80**	**1.61**	**3.77**	**0.71**	**0.80**	**1.31**	**3.12**	**3.93**	**0.40**	**2.42**	**0.16**	**7.71**	**1.71**	**6.35**	**5.24**	**1.11**

1.99E-05	3.86E-05	3E-05	1.25E-05	6.5E-07	2.59E-05	0	0	1.34E-05	0	0	3.21E-05	0	0	0	0	0	0	0	2.17E-06	7.46E-05	0	0	0	0
1.35E-05	2.61E-05	2.03E-05	8.44E-06	4.41E-07	1.75E-05	0	0	9.03E-06	0	0	2.17E-05	0	0	0	0	0	0	0	1.47E-06	5.04E-05	0	0	0	0
9.34E-07	1.81E-06	1.41E-06	5.85E-07	3.03E-08	1.22E-06	0	0	6.26E-07	0	0	1.5E-06	0	0	0	0	0	0	0	1.01E-07	3.5E-06	0	0	0	0
4.65E-07	9.01E-07	7.01E-07	2.92E-07	1.54E-08	6.05E-07	0	0	3.11E-07	0	0	7.48E-07	0	0	0	0	0	0	0	5.07E-08	1.74E-06	0	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-**	**-**	**0.00**	**-**	**-**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.00**	**0.00**	**-**	**-**	**-**	**-**
0.06	**0.12**	**0.10**	**0.04**	**0.00**	**0.08**	**-**	**-**	**0.04**	**-**	**-**	**0.10**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.01**	**0.24**	**-**	**-**	**-**	**-**
0.01	**0.02**	**0.02**	**0.01**	**0.00**	**0.02**	**-**	**-**	**0.01**	**-**	**-**	**0.02**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.00**	**0.04**	**-**	**-**	**-**	**-**
23.36	**45.29**	**35.22**	**14.64**	**0.76**	**30.38**	**-**	**-**	**15.66**	**-**	**-**	**37.59**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2.54**	**87.45**	**-**	**-**	**-**	**-**

Heptene	Dimethyl napthalene	C-1 Compounds	C-10 Compounds	C-10 Olefins	C-10 Paraffins	C-11 Compounds	C-12 Compounds	C-13 Compounds	C-14 Alkane	C-14 Compounds	C-15 Alkane	C-15 Compounds	C-16 Alkane	C-16 Compounds	C-17 Compounds	C-18 Alkane	C-18 Compounds	C-19 Compounds	C-2 Compounds	C-20 Compounds	C-21 Compounds	C-22 Compounds	C-23 Compounds	C-24 Compounds
3.16E-05	6.50E-06			0.000422	0.001055				1.34E-05		1.28E-05		1.05E-05			1.43E-07								
2.14E-05	4.39E-06			0.000285	0.000713				9.08E-06		8.64E-06		7.12E-06			9.92E-08								
2.97E-05	6.10E-06			0.000396	0.000989				1.26E-05		1.20E-05		9.89E-06			1.32E-07								
1.48E-05	3.03E-06			0.000197	0.000492				6.26E-06		5.96E-06		4.92E-06			6.61E-08								
		1.74E-05	1.06E-05			1.07E-05	6.60E-06	1.03E-05		1.34E-05		1.31E-05		1.05E-05	9.18E-06		6.13E-06	4.68E-06	5.99E-05	2.73E-06	2.25E-06	1.77E-06	1.44E-06	1.44E-06
9.70E-07	1.98E-07			1.30E-05	3.24E-05				4.08E-07		3.97E-07		3.20E-07			0								
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.11	**0.02**	**0.03**	**0.02**	**1.44**	**3.60**	**0.02**	**0.01**	**0.02**	**0.05**	**0.03**	**0.04**	**0.03**	**0.04**	**0.02**	**0.02**	**0.00**	**0.01**	**0.01**	**0.12**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**
0.02	**0.00**	**0.01**	**0.00**	**0.26**	**0.66**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
39.41	**8.10**	**12.71**	**7.72**	**525.69**	**1,314.10**	**7.85**	**4.82**	**7.52**	**16.74**	**9.75**	**15.93**	**9.54**	**13.13**	**7.65**	**6.70**	**0.18**	**4.47**	**3.42**	**43.74**	**2.00**	**1.64**	**1.30**	**1.05**	**1.05**

9.70E-07	1.98E-07	0.00E+00	0.00E+00	1.30E-05	3.24E-05	0.00E+00	0.00E+00	0.00E+00	4.08E-07	0.00E+00	3.97E-07	0.00E+00	3.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	1.74E-05	1.06E-05	0.00E+00	0.00E+00	1.07E-05	6.60E-06	1.03E-05	0.00E+00	1.34E-05	0.00E+00	1.31E-05	0.00E+00	1.05E-05	9.18E-06	0.00E+00	6.13E-06	4.68E-06	5.99E-05	2.73E-06	2.25E-06	1.77E-06	1.44E-06	1.44E-06
1.48E-06	3.05E-07	0.00E+00	0.00E+00	1.98E-05	4.94E-05	0.00E+00	0.00E+00	0.00E+00	6.29E-07	0.00E+00	5.99E-07	0.00E+00	4.94E-07	0.00E+00	0.00E+00	6.61E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7.38E-07	1.52E-07	0	0	9.84E-06	2.46E-05	0	0	0	3.13E-07	0	2.98E-07	0	2.46E-07	0	0	3.31E-09	0	0	0	0	0	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.01	**0.00**	**0.03**	**0.02**	**0.09**	**0.21**	**0.02**	**0.01**	**0.02**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.02**	**0.02**	**0.00**	**0.01**	**0.01**	**0.12**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.00**	**0.01**	**0.00**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
2.33	**0.48**	**12.71**	**7.72**	**31.08**	**77.71**	**7.85**	**4.82**	**7.52**	**0.99**	**9.75**	**0.94**	**9.54**	**0.77**	**7.65**	**6.70**	**0.01**	**4.47**	**3.42**	**43.74**	**2.00**	**1.64**	**1.30**	**1.05**	**1.05**

3.16E-05	6.5E-06	0	0	0.000422	0.001055	0	0	0	1.34E-05	0	1.28E-05	0	1.05E-05	0	0	1.43E-07	0	0	0	0	0	0	0	0
2.14E-05	4.39E-06	0	0	0.000285	0.000713	0	0	0	9.08E-06	0	8.64E-06	0	7.12E-06	0	0	9.92E-08	0	0	0	0	0	0	0	0
1.48E-06	3.05E-07	0	0	1.98E-05	4.94E-05	0	0	0	6.29E-07	0	5.99E-07	0	4.94E-07	0	0	6.61E-09	0	0	0	0	0	0	0	0
7.38E-07	1.52E-07	0	0	9.84E-06	2.46E-05	0	0	0	3.13E-07	0	2.98E-07	0	2.46E-07	0	0	3.31E-09	0	0	0	0	0	0	0	0
0.00	**0.00**	**-**	**-**	**0.00**	**0.00**	**-**	**-**	**-**	**0.00**	**-**	**0.00**	**-**	**0.00**	**-**	**-**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
0.10	**0.02**	**-**	**-**	**1.36**	**3.39**	**-**	**-**	**-**	**0.04**	**-**	**0.04**	**-**	**0.03**	**-**	**-**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
0.02	**0.00**	**-**	**-**	**0.25**	**0.62**	**-**	**-**	**-**	**0.01**	**-**	**0.01**	**-**	**0.01**	**-**	**-**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
37.08	**7.62**	**-**	**-**	**494.60**	**1,236.39**	**-**	**-**	**-**	**15.75**	**-**	**14.99**	**-**	**12.36**	**-**	**-**	**0.17**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

C-25 Compounds	C-26 Compounds	C-27 Compounds	C-28 Compounds	C-29 Compounds	C-3 Compounds	C-30 Compounds	C-31 Compounds	C-32 Compounds	C-33 Compounds	C-34 Compounds	C-35 Compounds	C-36 Compounds	C-37 Compounds	C-38 Compounds	C-39 Compounds	C-4 Compounds	C-40 Compounds	C-41 Compounds	C-42 Compounds	C-43 compounds	C-5 Compounds	C-6 Compounds	C-7 Compounds	C-8 Compounds
1.62E-06	1.32E-06	6.61E-07	9.59E-07	4.19E-07	1.56E-05	9.59E-07	8.71E-07	8.16E-07	6.61E-07	7.17E-07	4.85E-07	5.95E-07	2.43E-07	1.54E-07	3.31E-07	1.22E-05	5.51E-08	1.54E-07	5.51E-08	3.31E-08	7.09E-06	1.29E-05	8.68E-06	3.40E-06
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.03**	**0.02**	**0.01**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
1.18	**0.97**	**0.48**	**0.70**	**0.31**	**11.42**	**0.70**	**0.64**	**0.60**	**0.48**	**0.52**	**0.35**	**0.43**	**0.18**	**0.11**	**0.24**	**8.94**	**0.04**	**0.11**	**0.04**	**0.02**	**5.17**	**9.42**	**6.33**	**2.48**

0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1.62E-06	1.32E-06	6.61E-07	9.59E-07	4.19E-07	1.56E-05	9.59E-07	8.71E-07	8.16E-07	6.61E-07	7.17E-07	4.85E-07	5.95E-07	2.43E-07	1.54E-07	3.31E-07	1.22E-05	5.51E-08	1.54E-07	5.51E-08	3.31E-08	7.09E-06	1.29E-05	8.68E-06	3.40E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.03**	**0.02**	**0.01**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
1.18	**0.97**	**0.48**	**0.70**	**0.31**	**11.42**	**0.70**	**0.64**	**0.60**	**0.48**	**0.52**	**0.35**	**0.43**	**0.18**	**0.11**	**0.24**	**8.94**	**0.04**	**0.11**	**0.04**	**0.02**	**5.17**	**9.42**	**6.33**	**2.48**

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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C-9 Compounds	Cyclopentylcyclopentane	Hexyne	Methylcyclooctane	Pentyne	T-1-Phenylbutene	Decanol	Dodecanol
						0.000422	0.000211
						0.000285	0.000143
						0.000396	0.000198
						0.000197	9.84E-05
2.25E-06	6.35E-06	2.76E-07	4.55E-06	2.62E-06	3.17E-06		
						1.30E-05	6.48E-06
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.01**	**0.00**	**0.01**	**0.01**	**0.01**	**1.44**	**0.72**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.26**	**0.13**
1.64	**4.63**	**0.20**	**3.32**	**1.92**	**2.32**	**525.69**	**262.80**

0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-05	6.48E-06
2.25E-06	6.35E-06	2.76E-07	4.55E-06	2.62E-06	3.17E-06	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.98E-05	9.89E-06
0	0	0	0	0	0	9.84E-06	4.92E-06
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.00	**0.01**	**0.00**	**0.01**	**0.01**	**0.01**	**0.09**	**0.04**
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.01**
1.64	**4.63**	**0.20**	**3.32**	**1.92**	**2.32**	**31.08**	**15.54**

0	0	0	0	0	0	0.000422	0.000211
0	0	0	0	0	0	0.000285	0.000143
0	0	0	0	0	0	1.98E-05	9.89E-06
0	0	0	0	0	0	9.84E-06	4.92E-06
-	**-**	**-**	**-**	**-**	**-**	**0.00**	**0.00**
-	**-**	**-**	**-**	**-**	**-**	**1.36**	**0.68**
-	**-**	**-**	**-**	**-**	**-**	**0.25**	**0.12**
-	**-**	**-**	**-**	**-**	**-**	**494.60**	**247.26**