CITY OF PALMDALE

(Quikrete Bagging and Block Paver Plant Project)
CUP 17-012 Major Modification No. 1 and
Site Plan Review 22-019

INITIAL STUDY

Prepared for

CITY OF PALMDALE
38250 SIERRA HIGHWAY
PALMDALE, CA 93550

Prepared by:

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DISTRIBUTION LIST

MANDATORY MAILINGS FOR ALL ENVIRONMENTAL DOCUMENTS:

Applicant

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Fremont, CA 94538

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1. INTRODUCTION

A. Background of the Initial Study

The Project site is located along East Palmdale Blvd and encompasses APN's (3024-002-021, 3024-002-022, and 3024-002-007). The following entitlements have been previously prepared for parcels 3024-002-021 and 3024-002-022:

- 2005 Conditional Use Permit (CUP) 05-05 to approve an approximately 95,000 square foot pre-mixed concrete packaging facility.
- 2007 CUP 05-05 Major Modification (MMD). An Initial Study Mitigated Negative Declaration for a proposed modification to the previously approved CUP-05-05 modifying the site and building design for a proposed pre-mixed concrete packaging facility and concrete block plant on an approximately 20-acre, two parcel site.
- 2018 CUP 17-012 to approximate the proposed project and find that the project includes minor alterations to the previously adopted MND for the previously approved CUP 05-05 MM, as outlined in an Addendum.
- 2021 CUP 17-012 Time Extension (TE) to find that the project is consisted with the adopted Mitigated Negative Declaration (MND) previously approved for the project.

The Quikrete Companies (Applicant) proposes the submittal of an updated entitlement application for the project site. The project site will include the additional parcel on APN 3024-002-007 and will also include additional operations at the site, which involve constructing a Block Paver facility within the same project area. Project activities remain similar to those previously analyzed on site with the exception that wet aggregates (granite and hydrate aggregates) will be used as opposed to dry, fine, and coarse sand for packaging and shipping and the business property will expand from the originally approved 20 acres to 30 acres.

B. Lead Agency

City of Palmdale
38250 Sierra Highway
Palmdale, CA 93550

C. Technical Studies

The following technical studies and updates to the previously prepared technical studies have been prepared for this Project:

- 2004 – Phase I Cultural Resources Investigation of a Twenty-Acre Lot
- 2005 – Air Quality Assessment Report
- 2005 – Geotechnical Engineering Report

- 2017 – Air Quality Study
- 2017 – Updated Cultural Resources Study Results
- 2017 – Addendum to November 2004 Biological Resources Report
- 2017 – Phase I Environmental Assessment
- 2017 – Updated Geotechnical Engineering Report
- 2022 – Air Quality Study
- 2022 – Geotechnical Engineering Report
- 2022 – Phase I Cultural Resources Assessment
- 2021 – Phase I Environmental Site Assessment
- 2022 – Trip Generation Memorandum
- 2022 – Focused Traffic Study

2. PROPOSED PROJECT DESCRIPTION

A. Project Location

The Proposed Project site is located in the City of Palmdale along Palmdale Boulevard and approximately 340 feet east of 75th Street East. The project area is south of Palmdale Boulevard. The Proposed Project would be constructed on Assessor Parcel Numbers (APNs) 3024-002-021, 3024-002-022, and 3024-002-007. The Project site is currently vacant but is adjacent to a single-family residence.

B. Proposed Project Setting

The land use designation of the Project site is identified as Industrial with zoning Mineral Resource Extraction (MRE) and land use designation as Resource Extraction Area. The proposed new use on the Project site is a Block Paver Fabrication Plant and Concrete Dry Mix Bagging Plant Facilities. The Project site is currently vacant.

C. Proposed Project Components

The Applicant proposes to operate a concrete bagging and block paver manufacturing facility (Proposed Project) on an approximately 30-acre vacant site in the City of Palmdale (assessor identification numbers 3024-002-021, 3024-002-022, and 3024-002-007). The Proposed Project's key facilities include production areas, storage, office, landscaping, parking lot, asphalt and paver areas, walkways, and two detention basins. The estimated square footages of the Proposed Project are listed below:

Site Details	Area
Quikrete Production Facility	71,000 square feet
Pavestone Production	65,000 square feet
Office Building	3,600 square feet
2nd phase Pavestone Plant Expansion	24,440 square feet
Covered Storage	21,000 square feet
Parking Areas	102,836 square feet 162 Spaces 27 Clean Air Vehicles / Electric Vehicle Charging Spaces
Asphalt Pavement Area	228,141 square feet
Landscaped Parking Area	41,120 square feet
Outside Storage	421,752 square feet
Natural Open and Basin Areas	147,124 square feet
Impervious Surfaces	10.04 acres
Pervious Surfaces	15.25 acres

Project Comparison

The CUP 05-05 and CUP 17-012 analyzed the development of a bagging facility on 14 acres of a 20-acre site while the proposed site plan consists of a bagging and paver facility on a 30-acre site. A comparison of the previously approved site plan and proposed site plan are provided below.

Previously Approved Project (Bagging Facility)		Proposed Project (Bagging and Paver Facility)		Comparison
Project Site	20-acres	Project Site	30-acres	Increase of 10 acres
Building Coverage	79,921 square feet	Building Coverage	164,040 square feet	Increase of 84,119 square feet
Parking	22,721 square feet	Parking	103,863 square feet	Increase of 81,142 square feet
Pavement Area	138,958 square feet	Pavement Area	228,141 square feet	Increase of 89,183 square feet
Landscaped & Open Area	261,360 square feet	Landscape Area	188,345 square feet	Decrease of 73,015 square feet
Outside Storage	266,587 square feet	Outside Storage	400,752 square feet	Increase of 155,165 square feet
n/a		Covered	21,000 square	Increase of

	Storage	feet	21,000 square feet
Employee Count 45	Employee Count	120 (80 daytime and 40 swing shift)	Increase of 75

Proposed Project Construction

Construction is anticipated to begin in Spring/Summer 2024 with an estimated construction duration of 12 months with an operational date of Spring 2025. The Proposed Project area will be graded prior to building construction. Construction activities are scheduled to occur Monday through Friday between 6:30 AM and 8:00 PM per the Palmdale Municipal Code (PMC) Chapter 8.28. Equipment to be used on site includes excavators, earthmovers, front end loaders, backhoes, compactors, cement mixers, water trucks, cranes, forklifts, and other typical construction equipment. Construction staging areas will be located on site.

Project Features

As part of the Proposed Project, the Applicant would incorporate all the geotechnical recommendations in the Geotechnical Engineering Report (2022) provided by Bruin Geotechnical Services, INC. Additionally, the Proposed Project would include sound panels on the dryer platforms, use of intake silencers, and enclosure of the block and paver plants.

D. Required Permits and Approvals

As required by the California Environmental Quality Act (CEQA) Guidelines, the following is a list of all permits and approvals that will be required to implement the Proposed Project:

Approvals

- City of Palmdale – Lead Agency Approval
- Site Plan Review 22-019
- Conditional Use Permit Major Modification No. 1

Permits

- Engineering Encroachment Permit and Street Improvements
- Building Permit
- Building Inspection
- Grading Permits
- Landscaping Permit
- Antelope Valley Air Quality Management District Permit

- FEMA LOMR/LOMA Permit
- CDFW Incidental Take Permit
- LA County Fire Department
- Palmdale Water District

Figure 1: Map Vicinity

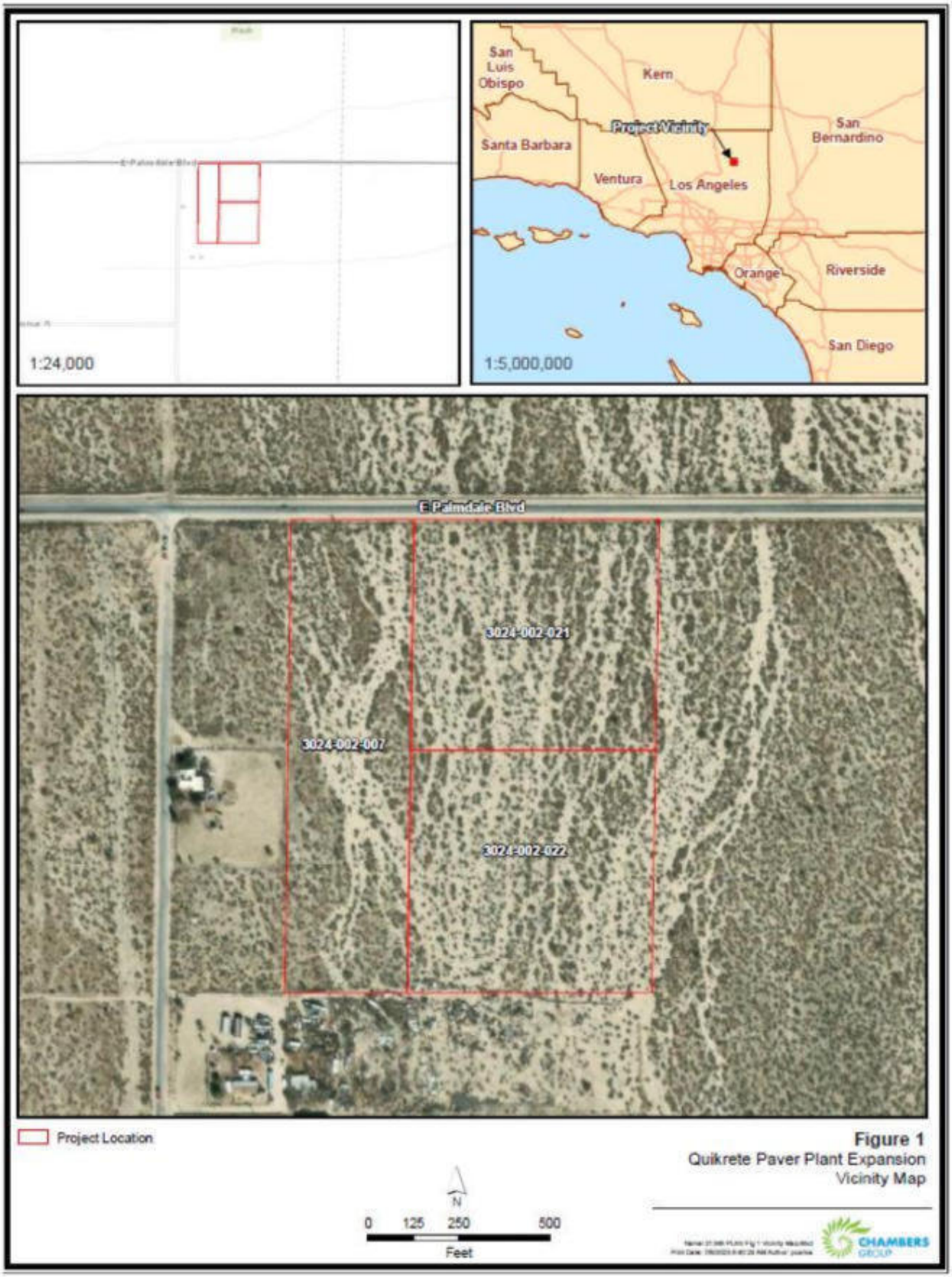
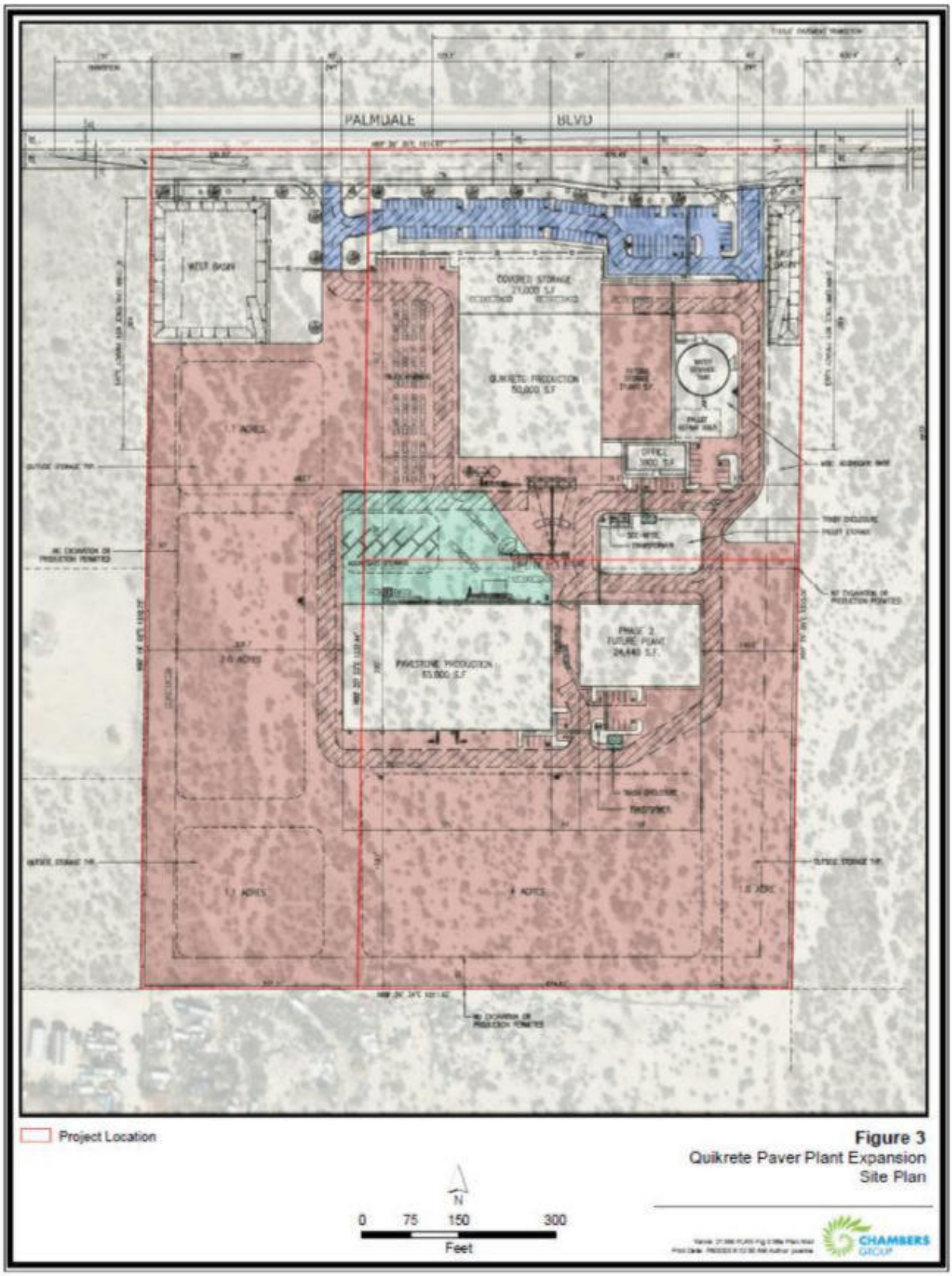


Figure 2: Vicinity Map of Previously Approved Project

Figure 3: Proposed Project



3. ENVIRONMENTAL CHECKLIST

A. Background

1. Proposed Project Title:

Quikrete Bagging and Block Paver Plant CUP 17-012 Major Modification No. 1 and Site Plan Review 22-019

2. Lead Agency Name and Address:

City of Palmdale
Economic and Community Development Department
Planning Division
38250 Sierra Highway
Palmdale, CA 93550

3. Contact Person and Phone Number:

Sam Dominguez, Assistant Planner
City of Palmdale
Economic and Community Development Department
Planning Division
38250 Sierra Highway
Palmdale, CA 93550
(661) 267-5216

4. Proposed Project Location:

The Proposed Project is located in the City of Palmdale along Palmdale Boulevard and approximately 340 feet east of 75th Street East. The Project area is south of Palmdale Boulevard and encompasses APN's (3024-002-021, 3024-002-022, and 3024-002-007).

5. Proposed Project Applicant's Name and Address:

Roman Olmos
The Quikrete Companies
6950 Stevenson Blvd.
Fremont, CA 94538

6. Existing Land Use / Zoning / General Plan:

	SURROUNDING LAND USE	ZONING	GENERAL PLAN
SITE	Vacant	Mineral Resource Extraction (MRE)	MRE
NORTH	Vacant across East Palmdale Boulevard	MRE	MRE
SOUTH	Vacant	MRE	MRE
EAST	Vacant	MRE	MRE
WEST	Vacant Land and Single-Family Residence	MRE	MRE

7. Description of Proposed Project:

The Applicant proposes the construction of a new Quikrete Production facility with 71,000 square feet for Quikrete production, pavestone production facility totaling 65,000 square feet, and 3,600 square feet of office space. The facility would also provide 162 parking spaces on site with 27 clean air/electric vehicle charging spaces. The Proposed Project would be constructed on three vacant parcels, totaling approximately 30 acres.

8. Surrounding Land Uses and Setting:

The Proposed Project is located in the City of Palmdale along Palmdale Boulevard and approximately 340 feet east of 75th Street East. The Project area is south of Palmdale Boulevard.

The nearest residence is approximately 400 feet west of the Project site and is a legal non-conforming use. The Project area is zoned for Mineral Resource Extraction (MRE)with land use designed as Mineral Resource Extraction. The proposed uses of the Project site are for a Block Paver Fabrication Plant Facility.

B. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Proposed Project, involving at least one impact that is a "Potentially Significant Impact", as indicated by the checklist on the following pages. Potentially significant impacts that are mitigated to "Less Than Significant" are not shown here.

❑ Aesthetics	❑ Agriculture and Forestry Resources	❑ Air Quality
☒ Biological Resources	☒ Cultural Resources	❑ Energy
❑ Geology/Soils	❑ Greenhouse Gas Emissions	❑ Hazards and Hazardous Materials
❑ Hydrology/Water Quality	☒ Land Use/Planning	❑ Mineral Resources
❑Noise	❑ Population/Housing	❑ Public Services
❑ Recreation	❑Transportation	❑Tribal Cultural Resources
❑ Utilities/Service Systems	❑ Wildfire	❑ Mandatory Findings of Significance

C. Determination

On the basis of this initial evaluation: (Select one)

☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the Proposed Project. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the Proposed Project MAY have a significant effect on the environment, and ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the Proposed Project MAY have a significant effect(s) on the environment, but at least one effect: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards; and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated". An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the Proposed Project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the Proposed Project.

This initial study was prepared by:

10/10/23
Date

Sam Dominguez
Assistant Planner

10/10/23
Date

Brenda Magana
Planning Manager

D. Evaluation of Environmental Impacts

Each of the responses in the following environmental checklist considers the whole action involved, including Proposed Project-level, cumulative, on-site, off-site, indirect, construction, and operational impacts. A brief explanation is provided for all answers and supported by the information sources cited.

1. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone).

2. A “Less Than Significant Impact” applies when the proposed project would not result in a substantial and adverse change in the environment. This impact level does not require mitigation measures.

3. A “Less Than Significant Impact With Mitigation Incorporated” applies when the proposed project would not result in a substantial and adverse change in the environment after additional mitigation measures are applied.

4. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect is significant. If there are one or more “Potentially Significant” entries when the determination is made, an EIR is required.

4. ENVIRONMENTAL ANALYSIS

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
I AESTHETICS. Would the Project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Project Impacts

a) Would the Project have a substantial adverse effect on a scenic vista?

No Impact. The Proposed Project will not have a substantial adverse effect on a scenic vista, damage scenic resources within a scenic highway, or degrade visual character of the area. The Proposed Project is located within the Mineral Resource Extraction Zone and Reclamation (MRE) Zone per the City of Palmdale Zoning Map (City of Palmdale 2023). No designated scenic vistas are within the vicinity, nor is the Project site a scenic location. No impact would occur.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less than Significant Impact. The Proposed Project site is directly south of East Palmdale Boulevard. No state scenic highways are within the vicinity of the Project (Caltrans 2022). According to the EIR for the City's General Plan, Angeles Crest Highway (State Route 2) is designated state scenic highway (approximately 25 miles south of the City), and Interstate 210 (which is 26 miles south) is eligible for

state scenic highway designation (City of Palmdale 2022a). The Proposed Project would be visible from Palmdale Boulevard. The National Wildlife Federation classifies Joshua Trees as succulents and are not considered trees, but are protected by CDFW and would adhere to those requirements. As such, the Project would not damage scenic resources related to trees along a state scenic highway because trees would not be affected, and the Proposed Project is not located along a state scenic highway. Impacts therefore are less than significant.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant Impact. The surrounding properties consist mostly of vacant land, a residential property, and a quarry and recycling facility located over 400 feet south of the Project area. According to PMC Section 17.72.100, building heights of structures within the MRE zone shall not exceed 100 feet. The proposed buildings and equipment will not exceed 100 feet in height that may result in significant view obstruction by residents, workers, or commuters. On-site silos will be approximately 76 feet, and the top of the material elevator for the silos at 100 feet. The Proposed Project would not degrade the character or quality of the public views as no designated scenic vistas or key points of interest occur in the Project vicinity. Furthermore, the heights of the proposed structures will not exceed what is allowed under the City's guidelines. Impacts, therefore, are less than significant.

d) **Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?**

Less than Significant Impact. The addition of plant lighting will not result in substantial light or glare that will affect day or nighttime views in the area, however due to the remote location of the Project this would create new additional sources of light in the area. On-site facility lighting will be constructed in compliance with City standards which limits lights in MRE zones to not exceed 35 feet when visible from the public right-of-way. If areas of the Project site are not visible to the general public, taller standards may be approved with a Conditional Use Permit if there is no glare or light spillage into visible areas. Off-site lighting will be included. The parking lot areas adjacent to the street will have lights mounted at 25 feet high. The lights in the plant area away from the street will have lights mounted at 35 feet high. The City will allow the lights to be 35 feet high adjacent to the street and higher in the plant areas. Additionally, a photometric plan will be submitted to the City indicating compliance with the local ordinance for review and approval. No

lighting poles within 100 feet of an existing residential use will exceed 15 feet in height.

Any lighting required during construction will be temporary in nature. Construction activities would introduce temporary lighting and glare sources from equipment and vehicles. Lighting associated with the Proposed Project would be required to comply with PMC Section 17.86.030 which requires illumination levels consistent with the character and use of surrounding development; excessive illumination is not allowed. Additionally, exterior lighting would be required to be designed to minimize glare beyond the Proposed Project site; glare onto adjacent properties will be restricted. Therefore, implementation of the Proposed Project would result in a less than significant impact associated with light or glare.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
II AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the Project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forestland or conversion of forestland to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forestland to non-forest use?	☐	☐	☐	☒

Project Impacts

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

No Impact. The Proposed Project will not convert Prime, Unique, or Farmland of Statewide Importance as the Project area is not designated as such according to the Department of Conservations Important Farmland Finder (DOC 2022a). The current site and surrounding lands are vacant with no agricultural activity. In addition, land use of the Project area is identified for MRE uses. No impacts will occur.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Proposed Project site is not zoned for agricultural use. The nearest prime farmland area is located approximately two miles northwest along 50th Street East. The Proposed Project does not include any properties subject to the Williamson Act (Department of Conservation 2022b). The Proposed Project would not result in an impact associated with Williamson Act lands or agricultural zoning. No impact would occur.

c) Would the conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. The Proposed Project area does not include any forest lands or timberland (DOC 2022a). The Proposed Project would remove and/or relocate 79 western Joshua Trees with an ITP reviewed and approved from CDFW. Western Joshua Trees are classified as succulents, and not as trees. Therefore, the Proposed Project would not result in impacts to forested areas or timberland production. No impact would occur.

d) Would the project result in the loss of forestland or conversion of forestland to non-forest use?

No Impact. Implementation of the Proposed Project would not result in any change to land use on site via conversion of forest land to non-forest use (DOC 2022a). The Proposed Project area is vacant with no forest lands. No impact would occur.

e) Would the project Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forestland to non-forest use?

No Impact. As previously discussed, the Project area is zoned for MRE and designated for MRE uses. The Project area is in the high desert, on vacant land. Therefore, the Proposed Project will not involve the conversion of farmland to nonagricultural use or convert forestland to non-forest use (DOC 2022a). No impact will occur.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or result in a cumulatively considerable net increase in an existing or projected air quality violation?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in substantial emissions (such as odors or dust) adversely affecting a substantial number of people?	☐	☐	☒	☐

Project Impacts

An Air Quality Study was prepared for the Proposed Project by M.S. Hatch Consulting on July 2022 (Appendix A). The Air Quality Study included the estimated criteria pollutant and greenhouse gas (GHG) emissions from the construction and operation of the Proposed Project.

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact.

The City of Palmdale is located within the Antelope Valley Air Quality Management District (AVAQMD). National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), inhalable particulate matter (PM_{10}), fine particulate

matter ($PM_{2.5}$), and lead. The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility.

According to AVAQMD, CEQA and Federal Conformity Guidelines, a project is nonconforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable AVAQMD rules and regulations, complies with all proposed control measures that are not adopted from applicable plans, and is consistent with the growth forecasts in the applicable plan(s). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast. Tables 1 and 2 present the annual and daily emissions summaries from the construction and operation of the Proposed Project, respectively. Emissions were estimated using California Emissions Estimator Model CalEEMod Version 2020.4.0. The detailed emissions model outputs are included in Attachment B of the Air Quality Study.

Table 1. Annual Construction and Operational Emissions Summary

Emissions Source	Total Emissions (tons per year)						
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$	CO_2e
Construction Emissions							
Year 1 Construction (2023)	0.58	4.64	5.69	0.02	0.95	0.38	1,492
Year 2 Construction (2024)	0.58	0.14	0.25	< 0.01	0.02	0.01	38
Operational Emissions							
Total Operational Emissions	**0.96**	**3.07**	**17.67**	**0.01**	**0.50**	**0.18**	**2,099**
Significant Emissions Threshold	**25**	**25**	**100**	**25**	**15**	**12**	**100,000**

Table 2. Daily Construction and Operational Emissions Summary

Emissions Source	Total Emissions (pounds per day)						
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e
Year 1 Construction Emissions (2023)	4.83	53.69	47.53	0.13	7.52	3.65	13,158
Year 2 Construction Emissions (2024)	56.57	9.56	15.12	0.02	1.06	0.46	2,342
Operational Emissions							
Total Operational Emissions	**5.88**	**19.58**	**119.30**	**0.12**	**3.66**	**1.55**	**17,239**
Significant Emissions Threshold	**137**	**137**	**548**	**137**	**82**	**65**	**548,000**

ROG: Reactive Organic Compounds, used interchangeably with Volatile Organic Compounds (VOC); NO_X: oxides of nitrogen; CO: Carbon monoxide; SO_X: Oxides of sulfur; $PM_{2.5}$: particulate matter less than 2.5 micrometers in diameter; PM_{10}: particulate matter less than 10 micrometers in diameter; CO_2e: Carbon dioxide equivalent

Construction Emissions

Construction emissions were calculated using CalEEMod defaults and input provided by Antelope Valley Engineering. Antelope Valley Engineering reviewed the list of construction equipment and the anticipated construction schedule.

Table 3 provides the anticipated construction schedule. The Proposed Project construction is expected to take 320 days with six day workweeks.

Table 4 provides the anticipated number of pieces of construction equipment that will be used during each phase, the hours per day the equipment will be operated, and the horsepower of the equipment. The values in the table are based on CalEEMod default values which assumes a more conservative amount of emissions based on typical equipment.

The Proposed Project will require 375 cubic yards of material export during the *Site Preparation* phase and 23,000 cubic yards of material import during the *Grading* phase; as such, the emissions for material haul trips were included in the construction emissions. For fugitive dust emissions, CalEEMod defaults do not include any control of fugitive dust from Proposed Project construction sites. AVAQMD Rule 403 requires that fugitive dust from any "active operation, open storage pile or disturbed surface area" be controlled so that the no presence of dust remains visible beyond the property line. To meet this requirement, the standard operation is watering active sites three times per day. Although the addition of watering for dust control is listed as a mitigation measure in CalEEMod, within the AVAQMD this is a requirement and is therefore included as part of the model assumptions.

For architectural coating operations, volatile organic compound (VOC) emissions were calculated based on the assumption that the coatings would be compliant with the VOC content limits of AVAQMD Rule 1113.[1]

Table 3. Construction Schedule

Construction Phase	Start Date	End Date	Days/week	Total Workdays
Demolition	N/A	N/A	N/A	N/A
Site Preparation	4/13/2024	4/25/2024	6	12
Grading	4/26/2024	6/8/2024	6	36
Building Construction	6/9/2024	2/16/2025	6	216

[1] For building coatings, assumed to be 90-percent flat paints (50 grams per liter [g/L]) and 10-percent non-flat paints (100 g/L). For the parking lot coatings, assumed to be compliant with the Traffic Marking Coating category (100 g/L). VOC limits based on AVAQMD Rule 1113.

Paving	2/17/2025	3/27/2025	6	36
Architectural Coating	3/28/2025	4/20/2025	6	20

Table 4. Construction Equipment

Construction Phase	Equipment	Number of Equipment	Hours per day	Horsepower
Site Preparation	Rubber Tired Dozers	2	8	247
	Tractors/Loaders/ Backhoes	2	8	97
Grading	Excavators	2	8	158
	Graders	1	8	187
	Rubber Tired Dozers	1	8	247
	Scrapers	3	8	367
	Tractors/Loaders/ Backhoes	3	8	97
Building Construction	Cranes	2	7	231
	Forklifts	3	8	89
	Generator Sets	2	8	84
	Tractors/Loaders/ Backhoes	3	7	97
	Welders	2	8	46
Paving	Pavers	2	8	130
	Paving Equipment	2	8	132
	Rollers	2	8	80
Architectural Coating	Air Compressors	2	6	78

Operational Emissions

Operational emissions consist of area sources, energy use, mobile sources, stationary sources, solid waste disposal, and water and wastewater use. Annual and daily emissions calculations are provided in Tables 1 and Table 2, above.

The estimated emissions of criteria pollutants from the construction and the total operational emissions are well below the applicable AVAQMD Significant Emissions Thresholds; therefore, the Proposed Project does not have a significant air quality impact on the environment. In addition, the Proposed Project is not expected to expose sensitive receptors to substantial pollutant concentrations. The nearest sensitive receiver is a single-family residential property located

approximately 400 feet west of the Project Site (38260 75th St E). While the current zone does not permit residential uses, the property is a legal-non-conforming use. Since the construction and operational emissions are below the significance thresholds, emissions mitigation measures are not required.

Per the AVAQMD conformity guidelines included in the Air Quality Study, a project is conforming if it complies with applicable rules and regulations with the district and is consistent with the growth forecast. The Proposed Project is consistent with the land uses. Therefore, the Proposed Project is consistent with air quality plans, and impacts will be less than significant. Based on the Air Quality Study, the Proposed Project is not anticipated to conflict or obstruct with implementation of an applicable air quality plan. The estimated annual and daily emissions of construction and total operational emissions are below the applicable thresholds. While the Proposed Project would involve the use of equipment during the construction and use of trucks for hauling equipment to and from the Proposed Project site, the results from the Air Quality Study indicated that emissions will be below the AVAQMD Significant Emissions Thresholds (Appendix A). Impacts would be less than significant.

b) Would the project violate any air quality standard or result in a cumulatively considerable net increase in an existing or projected air quality violation?

Less than Significant Impact. AVAQMD is designated as nonattainment for the State standard for ozone; however, the AVAQMD has adopted an Ozone Attainment Plan (State and federal) and a federal 8-Hour Ozone Attainment Plan. Emissions during construction and operation are provided above in Table 1 and 2, with no AVAQMD thresholds being exceeded.

Construction emissions are temporary and include emissions of criteria pollutants and from construction activities during site preparation, grading, paving, building construction, and architectural coating application. During construction, emissions, including fugitive dust emissions could be generated, particularly during windy days, that may degrade the air quality. On-site watering and adjustment to earth-disturbing activities could reduce significant levels of particulates during periods of high winds. The proposed activities shall conform to PMC Chapter 8.04 for Health and Safety and Technical Construction Codes that includes Fugitive Dust Control Measures and with Rule 403 requiring implementation of best available dust control measures (BACM) and notification to AVAQMD for larger earthmoving operations. Operational emissions consist of area sources, energy use, mobile sources, stationary sources, solid waste disposal, and water and wastewater use. The Proposed Project's emissions for construction and operation are well below the applicable AVAQMD significant emission threshold and, therefore, will not have a significant air quality impact.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. According to the AVAQMD CEQA and Federal Conformity Guidelines, residences, schools, daycare centers, playgrounds and medical facilities are considered sensitive receptor land uses. The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated:

- Any industrial project within 1,000 feet
- A distribution center (40 or more trucks per day) within 1,000 feet
- A major transportation project (50,000 or more vehicles per day) within 1,000 feet
- A dry cleaner using perchloroethylene within 500 feet
- A gasoline dispensing facility within 300 feet

According to the Air Quality Study, the Proposed Project is considered one of the project types that the AVAQMD CEQA Guidelines require to be evaluated for potentially exposing sensitive receptors to substantial pollutant concentrations. As such, TAC emissions were calculated, and the Proposed Project was evaluated for potential health risks to sensitive receptors (Appendix A). Due to the close proximity (approximately 400 feet) to the nearest residence and because this Proposed Project is classified as industrial, the proposed manufacturing plant meets the criteria for the project types that must be evaluated for potentially exposing sensitive receptors to substantial pollutant concentrations. As such, toxic air contaminants (TAC) emissions were calculated using the California Air Resources Board (CARB) Hotspots Analysis and Reporting Program Version 2 (HARP 2) and the Project was evaluated for potential health risks to sensitive receptors. The emissions used in HARP 2 were based on the three largest sources of operational emissions at the Proposed Project. The sources included on-road heavy duty diesel trucks, on-site operation of LPG forklifts, and on-site operation of a diesel loader. All other emissions were considered negligible. Table 5 Table 5. Cancer and Noncancer Chronic, eight-Hour and Acute **HI Levels**

summarizes the cancer risk, and noncancer chronic, eight-hour and acute hazard index (HI) for the three residences located near the Proposed Project site. All risk levels are below the acceptable thresholds. A less than significant impact on sensitive receptors would occur.

Table 5. Cancer and Noncancer Chronic, eight-Hour and Acute HI Levels

Sensitive Receptor	Cancer	Chronic HI	8-hour Chronic HI	Acute HI
38260 75th St E, Palmdale, CA 93552 (located west of the Proposed Project)	4.53E-06	0.010	0.005	0.19
38138 75th St E, Palmdale, CA 93552 (located southwest of Proposed Project)	1.88E-06	0.005	0.002	0.12
38138 75th St E # 2, Palmdale, CA 93552 (located southwest of Proposed Project)	2.21E-06	0.006	0.003	0.13
Significant Risk Threshold	**1.0E-05**	**1**	**1**	**1**

d) Would the project result in substantial emissions (such as odors or dust) adversely affecting a substantial number of people?

Less than Significant Impact. Construction-related sources of odors will come from construction equipment ranging from exhaust fumes to grease and oils. Impacts from construction-generated odors can be dependent upon the source, frequency of the generation of the odor, intensity, wind direction, and receptor sensitivity. The impacts from odors would be temporary and will occur only during construction. The short-term odors that would be generated by the equipment would dissipate. Additionally, the Proposed Project would comply with AVAQMD Rule 403.

During the Proposed Project operations, aside from normal maintenance equipment, no anticipated uses of materials would result in substantial emissions of odors and dust. As part of the Proposed Project operations, various dust control measures are included as part of normal operations. These measures include use of filters, keeping raw materials wet, seals on applicable equipment, local ventilation systems, valves to prevent material from escaping, use of plastic wrapping. Therefore, impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV BIOLOGICAL RESOURCES. Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nesting sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

Project Impacts

A Biological Habitat Assessment was prepared for Envicom Corporation by Phoenix Biological Consulting to assess biological resources on the Project site. The site was visited on March 18th and 20th, 2022, to determine vegetation and species found on site. The results of the survey are provided in detail in the Biological Habitat Assessment provided as Appendix B.

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation Incorporated. The Proposed Project is located with an area that has the potential to provide potential or suitable habitat for nesting birds, Joshua tree (*Yucca brevifolia*), desert kit foxes (*Vulpes macrotis*), and other listed species (Appendix B). Five habitat types are found on site including: Urban, Joshua Tree, Mormon Tea, Fourwing Saltbush Scrub, and Scale Broom. Additionally, database searches resulted in a list of 20 federally and/or state listed threatened and endangered or otherwise special status plant species documented historically to occur within the vicinity of the Project site. A total of 79 Joshua trees were found on site which would require an incidental take permit from CDFW prior to disturbance of the trees. While the area west of the Proposed Project site was identified to be within the geographic range of the desert tortoise (*Gopherus agassizii*), burrowing owl (*Athene cunicularia*), and Mohave ground squirrel (*Xerospermophilus mohavensis*), no suitable habitats were located within or around the immediate area (Appendix B).

Due to the vegetation present and observation of these species in the project area, mitigation measures are provided at the end of the section to address the potential impacts to these species. Implementation of MM BIO-1 through MM BIO-5 would result in less than significant impact with mitigation incorporated for modification of the habitat by the Proposed Project.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact. The Proposed Project area does not contain any riparian habitats, nor is it located near a river or stream. No critical habitat was identified on site as well (Appendix B). No impact would occur.

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. According to the U.S. Fish and Wildlife Service's (USFWS's) National Wetlands Inventory, no riparian habitat occurs within the Project site boundary. In addition, no jurisdictional features such as drainages or swales were observed within the Project site. No impacts to wetlands, waters of the United States, or waters of the State are anticipated; therefore, a U.S. Army Corps of Engineers (USACE) 404 permit, State 401 certification, or State Streambed Alteration Agreement will not be required for Project authorization.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nesting sites?

No Impact. The Proposed Project area, including areas west and south of the Proposed Project site, consists of Urban, Western Joshua tree, Mormon Tea, Fourwing Saltbush Scrub, and Scale Broom habitats. According to the County of Los Angeles Department of Regional Planning, the Proposed Project area does not contain any regional wildlife linkages (County 2014). No impact would occur.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than Significant Impact with Mitigation Incorporated. PMC Section 14.04 requires the preservation of native desert vegetation. PMC Section 14.04.03 defines native vegetation as Western Joshua tree, California juniper, or any plant species identified as a state or federal rare and endangered species (City of Palmdale 2019). The City's Environmental Management Plan provides Western Joshua tree and Native Desert Vegetation Preservation plan requirements to preserve the natural desert vegetation with consideration to development and property rights. Under PMC Section 14.04.040, desert vegetation shall not be removed or caused to be removed unless a native desert vegetation removal permit is obtained from the City.

In September 2020, the California Fish and Game Commission petitioned to list the western Joshua tree (*Yucca brevifolia*) as threatened or endangered under the California Endangered Species Act (CESA). On October 2020, Western Joshua trees are considered a candidate threatened species by CDFW, which would require an incidental take permit for any disturbances associated with the Project. No California Juniper has been found on site, but approximately 79 Joshua Trees would be removed or relocated as part of the Proposed Project. The mitigation measures provided at the end of the section would address potential impacts related to local City policies regarding native vegetation or tree ordinances. While the Joshua is classified as a succulent and not a tree according to the National Wildlife Federation, its removal and/or relocation is an impact resulting from the Proposed Project. Therefore, mitigation measures such as MM BIO-3, BIO-4 and BIO-5 would be implemented to result in in a less than significant impact.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less than Significant Impact. The Proposed Project is located within the West Mojave Plan (habitat conservation plan). The Proposed Project area provides suitable habitats for plant species, state and federal rare and endangered species including Western Joshua trees, Mohave ground squirrel, desert kit fox, and others (Appendix B). The Proposed Project is not located within a significant ecological area identified by the Department of Regional Planning (County 2015) and is located within the Antelope Valley Area Plan and identified within a significant ecological area (County 2014). Significant Ecological Areas include Joshua Tree woodlands, wildlife corridors, and other sensitive habitat areas. However, the regulations associated with the Significant Ecological Areas are not applicable to the Project due to the City regulations superseding the County regulations. The Proposed Project does not involve the development or renewable energy, or activities that would impact or interfere with the Desert Renewable Energy Conservation Plan (DRECP; BLM 2016). A less than significant impact would occur.

Mitigation Measures

MM BIO-1: A preconstruction survey conducted by a qualified biologist shall be implemented prior to ground-disturbing activities. The following preconstruction survey schedules shall be implemented as necessary:

Preconstruction nesting bird survey prior ground-disturbing activities during the nesting season (February to September). Survey for active nests must be conducted by a qualified biologist one to two weeks prior to the activities to determine the presence/absence, location, and status of any active nests on or adjacent to the project site. If no active nests are discovered or identified, no further mitigation is required. In the event that active nests are discovered on site, a suitable buffer determined by the qualified biologist (e.g., 30 to 50 feet for passerines) should be established around such active nests. No ground-disturbing activities shall occur within this buffer until the biologist has confirmed that breeding/nesting is completed, and the young have fledged the nest. Limits of construction to avoid a nest site shall be established in the field by a qualified biologist with flagging and stakes or construction fencing. Construction personnel shall be instructed regarding the ecological sensitivity of the fenced area. The results of the survey shall be documented and filed with the City. Preconstruction survey for desert kit foxes and rare plant species shall be conducted within 30 days prior to ground-disturbing activities. If burrows are observed and cannot be avoided, the burrows will require passive relocation, excavation measures, and consultation with CDFW prior to disturbance. If any rare plants are encountered, they will be relocated off the Project site limits in a similar substrate and similar orientation.

MM BIO-2: If, during the preconstruction survey, the Mohave ground squirrel is determined to be present on the site, then Project-specific measures will be determined through consultation with the California Department of Fish and Wildlife (CDFW) as part of a Section 2081 permit application. Measures may include purchase of suitable off-site habitat for the species. If the Project proponent elects to trap to determine occupancy, then protocols established by the CDFW for identifying habitat and individuals shall be followed.

MM BIO-3: The applicant shall consult with the CDFW regarding any species of special concern identified on the site and comply with CDFW protocol for impacts to the species.

MM BIO-4: All cactus species are protected under the California Desert Native Plants Act (CDNPA). Approximately five cholla cacti are within the study area. A qualified biologist shall mark all cacti with high visibility flagging so they may be avoided as much as possible during Project development to reduce impacts to the site. Where disturbance is unavoidable, cacti may be salvaged and replanted in the Project perimeter.

MM BIO-5: The City of Palmdale Joshua Tree and Native Desert Vegetation Preservation Ordinance (PMC Section 14.04) requires that the removal and trimming of western Joshua trees shall require authorized permits issued pursuant to the ordinance requirements and be completed by a desert native plant specialist. The Project Applicant shall coordinate with the City and CDFW in submitting the necessary documentation required prior to the disturbance to any Joshua Trees, including an Incidental Take Permit. The Applicant shall hire a desert native plant specialist to conduct a census of the property. The census report shall include the requirements outlined in PMC Section 14.04 Ordinance (Part D2). Once approvals have been received, to the maximum extent practicable, the Project shall avoid take of western Joshua trees on the Project site. If avoidance is infeasible, the Project shall implement the minimization measures outlined in PMC Section 14.40 ordinance. If minimization is found infeasible, removal may be permitted for Joshua Trees that cannot be feasibly avoided or relocated.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V	CULTURAL RESOURCES. Would the Project:				
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5, respectively?	☐	☐	☐	☒
b)	Cause a substantial adverse change in the significance of an archaeological resource as defined in Public Resources Code Section 21083.2 and 21084.1, and CEQA Guidelines Section 15064.5, respectively?	☐	☐	☒	☐
c)	Disturb any Native American tribal cultural resources or human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

Project Impacts

On February 2022, Ethnografica prepared a Phase I Cultural Resources Assessment for the Project on APN 3024-002-007 (Appendix C). Data collection was conducted to comply with CEQA requirements which included a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) record search, California Historical Resources Information System – South Central Coastal Information Center (CHRIS-SCCIC) review, and Bureau of Land Management – General Land Office (BLM-GLO) Records Database record search and an intensive pedestrian survey of the Project area. The Cultural Resources Assessment found one archaeological or cultural resource present within 0.5 mile of the Project, a historic trash dump site.

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5, respectively?

No Impact. Per the City's General Plan Update's EIR, it is revealed that there are five state-designated, and 14 locally recognized, historical resources located in the City. Four of the resources are buildings that are located within the property of the United States. Air Force Plant 42 and within the portion of the Southern Pacific Railroad along SR-138. The project area is in a dynamic environment (e.g., a wash), and anything that may be observed in the area would not likely be in situ (City of Palmdale 2022). In addition, the 2021 pedestrian survey did not result in the identification of any cultural resources or intact landforms. Results from a records search indicated a historic trash dump was found on site and was documented in Appendix C. This site is not considered a significant historical resource; therefore, no impact would occur.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource as defined in Public Resources Code Section 21083.2 and 21084.1, and CEQA Guidelines Section 15064.5, respectively?

Less than Significant Impact. The Proposed Project site is highly disturbed vacant land and is surrounded by undeveloped land. According to the City of Palmdale General Plan, the Proposed Project site is located within a moderately high sensitivity area for archaeological resources (City of Palmdale 2022a). As discussed in threshold (a), one previously recorded historic-era archaeological resource greater than 45 years of age was identified during the survey (H-TD-01; historic trash dumpsite and associated refuse, ca. 1950s to 1970s). This site was recorded and fully evaluated and was determined not eligible for listing on the California Register of Historical Resources (14 California Code of Regulations § 4850). Considering the lack of previously recorded cultural resources within the Proposed Project site, it is unlikely that archaeological resources will be encountered during ground-disturbing work for the Proposed Project. However, because resources are often buried and not easily identifiable, the Proposed Project does have the potential to encounter previously unrecorded resources. The Proposed Project will be subject to the standard condition of approval that any cultural resources identified during Proposed Project construction will be halted and an archaeologist must be available to evaluate the find. A less than significant impact would occur.

c) Would the project disturb any Native American tribal cultural resources or human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact. The 2021 site inspection did not result in the identification of prehistoric or historical archaeological resources within the Proposed Project site; it is not anticipated that significant archaeological or historical resources are on site. However, because resources are often buried and not easily identifiable, the Proposed Project will be subject to the standard condition of approval that any cultural resources identified during Proposed Project construction will be halted and an archaeologist must be available to evaluate the find.

If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or

his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Impacts will be less than significant.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI ENERGY. Would the Project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Project Impacts

Energy analyses and fuel consumption calculations by the Proposed Project have been incorporated in the updated Air Quality Study by M.S. Hatch Consulting (Appendix A) with a summary provided below.

a) Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation?

Less than Significant Impact. Southern California Edison will provide power from its existing infrastructure to serve the Proposed Project. Southern California Gas Company has facilities adjacent to the Proposed Project that will service the Proposed Project.

The Proposed Project involves the construction of an industrial facility on a 31-acre undeveloped parcel. The Proposed Project's estimated energy consumption is summarized in Table 6. During construction, the Proposed Project would consume energy in the form of fuel consumed by construction vehicles and equipment (refer to Section III for a summary of the Project's construction equipment). Operational energy use will result primarily from (1) building energy demand, and (2) transportation energy demand. The operational fuel consumption shown below is based on input from Antelope Valley Engineering, Inc., indicating that the site will see 175 heavy-duty diesel trucks and 288 employee vehicles per day.

Table 6. Project Energy Consumption

Energy Type	Project Annual Energy Consumption
Electricity Consumption from Daily Operations (not including vehicles)[2]	1,804 megawatt hour (MWh)
Natural Gas Consumption from Daily Operations (not including vehicles)[2]	29,462 therms
Fuel Consumption[3]	
• Construction (Heavy-Duty Diesel Vehicle) Fuel Consumption	57,406 gallons
• Operational Automotive Fuel Consumption, including heavy-duty truck trips and employee trips (diesel, gasoline, natural gas)	88,997 gallons
• Operational Automotive Energy Consumption (Electric and Plug-in Hybrid vehicles)	6,201 kWh

The Proposed Project would result in use of energy sources during the construction phase. It is difficult to measure the energy used in the production of construction materials such as asphalt, steel, and concrete as it will be provided by the contractors; therefore, it is reasonable to assume that the production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest of minimizing the cost of doing business. Substantial reductions in energy usage may also be accomplished by selecting building materials composed of recycled materials that require less energy to produce. The Proposed Project's petroleum consumption will be subject to State and federal regulations regarding fuel efficiency standards for on-road vehicles and off-road equipment. Furthermore, the energy use during construction would be temporary and cease once the Proposed Project has been completed.

Prior to project operations, the proposed buildings will be required to comply with the 2022 California Energy Code Title 24 Part 6 for energy efficiency requirements. The Proposed Project will be built in accordance with the Palmdale Green Building Code, PMC Section 8.04.200 of the City of Palmdale Adoption of Health, Safety and Technical Construction Codes. In addition, the City of Palmdale adopted an Energy Action Plan in 2011 providing recommendations and measures to improve energy efficiency for existing and new development (City of Palmdale 2011).

[2] As modeled in CalEEMod Version 2020.4.0; refer to Attachment B.

[3] Project fuel consumption was calculated based on CalEEMod results; refer to Attachment F.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. The operation of the Proposed Project is consistent with the land use and zoning of the parcel and will not conflict with the implementation of the City's Energy Action Plan. As discussed in Section VI threshold (a) above, energy demands will be served by Southern California Edison. the construction and operation of the Proposed Project would be required to comply with Title 24 of the California Code of Regulations to meet building energy efficiency requirements in addition to State and local energy standards. The Proposed Project will comply with the City's Construction Waste Management Plan which will identify the waste materials and diversion methods. Waste reduction and energy conservation are key goals outlined in the Energy Action Plan. Impacts, therefore, would be less than significant.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII GEOLOGY AND SOILS. Would the Project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of injury, damage or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Map issued by the State Geologist for the area or based upon on other substantial evidence of a known fault?	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Project Impacts

a) i) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of injury, damage or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Map issued by the State Geologist for the area or based upon on other substantial evidence of a known fault?

Less than Significant Impact. Southern California is known to be a seismically active region. According to the United States Geological Survey (USGS) Quaternary Faults map, the Proposed Project is not underlain by any known active fault; and no active faults have been mapped across the Proposed Project. However, the Proposed Project is located approximately 4.3 miles northeast of the San Andreas Fault, known to be an active fault (USGS 2019). The City of Palmdale's General Plan provides goals and policies within its Safety Element. It includes goals within the City to have minimal public health, safety, and welfare impacts from seismic hazards.

The Safety Element of the General Plan outlines goals and policies to provide seismic safety for new development in the City which are highlighted in Goal SE-1 (City of Palmdale 2022a). It establishes development standards to protect residents, property, and infrastructure systems from potential damage as a result of seismic activity. The City also implements the Alquist-Priolo Earthquake Fault Zoning Act which requires the appropriate structural setbacks for properties nearby active faults (City of Palmdale 2022a). Compliance with the City land use plans, grading plans, and recommendations provided in Geotechnical Report (Appendix D) would result in less than significant impacts.

ii) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of injury, damage or death involving strong seismic ground shaking?

Less than Significant Impact. Although no known faults lie beneath the Proposed Project site, the San Andreas Fault, an active fault, is located approximately 4.3 miles southwest of the Proposed Project site. Compliance with The City of Palmdale Seismic Safety Goal SE-1 would reduce impacts associated with strong seismic ground shaking (City of Palmdale 2022). Therefore, implementation of the Proposed Project would result in less than significant impacts associated with strong seismic ground shaking.

iii) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of injury, damage or death involving seismic-related ground failure, including liquefaction?

Less than Significant Impact. Soil liquefaction is a state of soil particle suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand, in which the strength is purely frictional, and occurs under vibratory conditions such as those induced by seismic events. Information presented in Appendix D states that the potential for liquification is negligible. Additionally, the Proposed Project is not located within a seismic hazard zone and is not located in an area of high soil expansion; and the Palmdale Quadrangle does not contain areas of known historic documented liquefaction. Impacts would be less than significant.

iv) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of injury, damage or death involving landslides?

No Impact. The Proposed Project site is relatively flat and does not include any significant slopes. Additionally, implementation of the Proposed Project would not result in the development of any slopes on the Proposed Project site. No impact would occur.

b) Would the project result in substantial soil erosion or the loss of topsoil?

No Impact. Soil sampling from the Project site classifies the soil as poorly graded sand and oversized boulders (Appendix D). Construction activities associated with the Proposed Project would be required to comply with City of Palmdale Municipal Code regulations and the requirements of the National Pollution Discharge Elimination System (NPDES) permit. PMC Section 8.04.265 (Excavation and Grading) establishes regulations for the control of excavation, grading and earthwork construction, including fills and embankments, and for the control of grading-site runoff, including erosion, sediments, and construction-related pollutants. The NPDES permit implements the City of Palmdale grading permit regulations that include compliance with erosion control measures, including grading and dust control measures. Construction associated with the Proposed Project would require the preparation and approval of an erosion control plan by the City of Palmdale Engineering Division. Additionally, preparation of a Storm Water Pollution Prevention Plan (SWPPP) will be required for the Proposed Project. These plans would identify Best Management Practices (BMPs) to be implemented during construction. BMPs would be designed to reduce soil erosion and construction site pollutant and sediment runoff to the maximum extent feasible. Further, all construction activities would be required to comply with AVAQMD Rule

403 regarding the control of fugitive dust; Rule 403 requires actions to prevent and reduce fugitive dust emissions.

Compliance with PMC Section 8.04.265, the NPDES permit, and AVAQMD Rule 403 would ensure impacts associated with soil erosion would be less than significant during construction. In addition, the Proposed Project would implement appropriate landscaping as noted in the City of Palmdale's Landscaping and Irrigation Standards, Chapter 14.05 Water Efficient Landscaping of the City's municipal code, and hardscape plans to limit on-site and off-site erosion during ongoing operation of the Proposed Project. Therefore, implementation of the Proposed Project would result in a less than significant impact associated with soil erosion.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact. As discussed above in threshold (a)(iv), the Proposed Project would not result in an impact associated with landslides. As discussed above in threshold (a)(iii), the Proposed Project would result in a less than significant impact associated with liquefaction. Lateral spreading is a result of liquefaction of soil on gently sloping ground during an earthquake. Considering the Proposed Project site is not identified as an area prone to liquefaction, the Proposed Project would result in a less than significant impact associated with lateral spreading.

During the geotechnical investigation, the upper two feet of soil were found to be non-uniform, with some areas of the site soils subject to hydro-consolidation that would not provide uniform soil support system without remediation. The contractor shall contact the Department of Building Safety to ensure that the Proposed Project is properly permitted and inspected during construction and all grading shall be in compliance with the local building code and Earthwork and Grading Specifications for Rough Grading. The Proposed Project will incorporate the geotechnical recommendations for earthwork, remedial grading, fill and compaction requirements, fill slope construction and stability, imported soils, and grading observation and testing to ensure that soil stability. Compliance with the building code safety and standards would result in a less than significant impact.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less than Significant Impact. The potential of soil to expand when wet and shrink when dry depends on the clay compositions. Certain types of clay tend to swell or expand when water content increases and shrink disproportionately when dry. As discussed in threshold (a)(iii), the Proposed Project is not located in an area of expansive soil and contains poorly graded sand and oversized boulders. Therefore, implementation of the Proposed Project would not result in an impact associated with expansive soils. Impacts would be less than significant.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. Sewage disposal shall be provided by an on-site sewage disposal system. Based on results of the Geotechnical Engineering Report, implementation of recommendations from the report would prevent any issues with collapsing soil; however, below two feet soil would be stable enough to support on-site sewage needs. No impact would occur.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact. The Proposed Project site consists of highly disturbed vacant land in an undeveloped portion of the city; therefore, an inadvertent discovery of a paleontological resource has the potential to occur. However, because such resources are often buried and not easily identifiable, the Proposed Project will be subject to a condition of approval requiring any resources discovered would require work to be halted and review by an archaeologist would completed. Impacts would be less than significant with mitigation incorporated.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII	GREENHOUSE GAS EMISSIONS. Would the Project:				
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b)	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Project Impacts

Analysis of GHG emissions have been incorporated in the updated Air Quality Study by M.S. Hatch Consulting (Appendix A).

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. The Air Quality Study estimated the emissions of criteria pollutants and GHGs for each year of construction as well as total operational emissions of the Proposed Project. GHG emissions are presented in units of carbon dioxide equivalent (CO_2e) in Table 1 and Table 2 in Section III of this report. Increases in long-term operational GHG emissions are not anticipated to occur as a result of the Proposed Project. As per the Air Quality Study, the estimated emissions of criteria pollutants and GHGs for the construction and operation of the Proposed Project are well below the applicable AVAQMD Significant Emissions Thresholds. Therefore, implementation of the Proposed Project would result in a less than significant impact associated with GHG emissions.

b) Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. Neither Los Angeles County nor AVAQMD have any specific plans, policies, or regulations adopted for reducing the emissions of GHGs. The City of Palmdale adopted an Energy Action Plan to provide guidance for reducing GHGs, including goals and reduction measures. The Proposed Project's construction-related emissions are short-term and anticipated to be insignificant. The operation of the Proposed Project would not create a significant increase in GHG emissions; therefore, implementation of the Proposed Project would result in a less than significant impact associated with an applicable plan, policy, or regulation adopted for reducing the emissions of GHGs.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX	HAZARDS AND HAZARDOUS MATERIALS. Would the Project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, emission or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable	☐	☐	☒	☐

	upset and accident conditions involving the release of hazardous materials into the environment?				
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e)	For a project located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or a public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Project Impacts

A Phase I Environmental Site Assessment was prepared by Bruin Geotechnical Services in December 2021 describing the findings at the three parcels and identifying, to the extent feasible, recognized environmental conditions (RECs) in connection with the Project site. The purpose of the Phase I Environmental Assessment was to conduct an investigation of the environmental conditions of the property and identify evidence that the site has had releases of any hazardous materials.

Historical research conducted for this assessment indicates that the property consisted of vacant, undeveloped land from at least 1928 to 2017. No evidence was found to indicate that orchards, row crops, buildings, or improved roads have been located on the property in the past. No significant data gaps or data failures were encountered during the course of this assessment (Appendix E).

The property currently consists of vacant, undeveloped land with native desert vegetation. Regulated quantities of hazardous materials including aboveground storage tanks (ASTs), underground storage tanks (USTs), and 55-gallon drums of chemicals were not observed to be used, stored, or disposed of on the property. No obvious recognized environmental conditions (RECs) were observed for the property during the site reconnaissance.

The property was not identified as a hazardous materials use, storage, disposal, or release site on any of the databases reviewed for this assessment. Oil and gas wells were not identified on the subject property. The search of regulatory lists for hazardous materials sites in the vicinity of the property did not identify any obvious potential off-site sources of contamination within the ASTM-specified approximate minimum search distance of the subject property. No obvious RECs for the property or adjacent parcels were noted from the databases reviewed (Appendix E).

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, emission or disposal of hazardous materials?

Less than Significant Impact. Operation of the Proposed Project involves the preparation, packaging, and transport of wet aggregates. The Proposed Project will not create a significant hazard to the public or environment, as the Project will not involve the transport or utilization of hazardous materials in significant quantities. Use of any potentially hazardous materials, whether during operations or construction such as use, storage, and disposal of fuels, oils, and lubricants, will be stored and disposed of according to the City, County, State, and federal regulations. Impacts will be less than significant.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact. As previously discussed in Section IX threshold (a), the Proposed Project is not anticipated to create a significant hazard to the public or environment as a result of the release of hazardous materials. The Proposed Project involves the packaging and transport of wet aggregates. The Proposed Project will not create a significant hazard to the public or environment, as the Project will not involve the transport or utilization of hazardous materials in significant quantities. Use of any potentially hazardous materials, whether during operations or construction such as use, storage, and disposal of fuels, oils, and lubricants, will be stored and disposed of according to the City, County, State, and federal regulations. Impacts will be less than significant.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact. The Project area is not located within one-quarter mile of an existing or proposed school. The nearest schools are located approximately one mile southwest of the Project area. Los Amigos School, Pete

Knight High School, and Knight Prep Academy are situated between 65th Street East and 70th Street East. In addition, routes for transport of the aggregates and other construction equipment and material will not be along the roads adjacent to the schools. Therefore, impacts will be less than significant.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less than Significant Impact. As discussed in the Phase 1 Environmental Assessment of the Project area, no listed hazardous materials sites exist in the Project area that would potentially create a significant hazard to the public and environment.

The property and adjoining parcels were not identified as hazardous materials use, storage, disposal, or release sites on any of the databases reviewed. Institutional controls and engineering controls were not identified for the subject property. Oil and gas wells were not identified on the subject property. Two hazardous materials use, storage, or disposal sites were identified within the approximate minimum search distance of the subject property. Both sites were identified on the U.S. Mines database as: (1) Robertson's Ready Mix, and (2) 75th Street Quarry and Recycling. A Google search identified Robertson's Ready Mix at 37790 75th Street East and 75th Street Quarry at 38050 75th Street east, located approximately one half mile south of the subject property.

No open hazardous materials release sites were identified within the approximate minimum search distance of the subject property. No obvious potential off-site sources of contamination or RECs for the property or adjoining parcels were identified from the 121 government databases reviewed. Based on the research conducted for the Geotechnical Engineering Report, no obvious RECs, historical RECs, or controlled RECs were identified during the course of this assessment.

No obvious conditions indicative of releases or threatened releases of hazardous substances, pollutants, contaminants, petroleum, and petroleum products on, at, in, or to the subject property were identified during the course of this assessment. No further environmental investigation of the subject property appears warranted at this time (Appendix E). Therefore, impacts will be less than significant.

e) Would the project for a project located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or a public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The nearest airport to the Project area is Palmdale Regional Airport and the United States Air Force Plant 42, located approximately six miles northwest from the Project area. Both airports are separate facilities but utilize the same runway space (County 2022). The Proposed Project will not result in a safety hazard for residents or workers within the project area, as the project area is not located near a public or private airport and is not within the Plant 42 Air Installation Compatible Use Zone (County 2022). No impact will occur.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The additional street improvements of the Proposed Project will improve emergency vehicle access along Palmdale Boulevard, as roadways will be widened and repaved. The Project would be conditioned to comply with requirements with Los Angeles County Fire Department regarding emergency vehicle access into the site from Palmdale Boulevard. The Proposed Project would be consistent with the goals outlined in SE-7 and SE-8 of the General Plan regarding Safety because the Proposed Project would improve Palmdale Boulevard to ensure a safe route when utilized in the event of an emergency (City of Palmdale 2022a). Therefore, the Proposed Project will not interfere with an emergency response plan or interfere with evacuation routes and emergency access. Impacts will be less than significant.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. The Project area is not located within a Fire Hazard Zone according to the City of Palmdale Very High Fire Hazard Severity Zone Map (City of Palmdale 2011). The Project area is within land use for QR and zoned as an MRE and not within an urbanized area or a residential area with intermixed wildlands (City of Palmdale 2015). Therefore, impacts regarding potential exposure of people or structures to wildland fires will be less than significant.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X HYDROLOGY AND WATER QUALITY. Would the Project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course or a stream or river or through the addition of impervious surfaces, in a manner that would:				
i) result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
iv) impeded or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Project Impacts

a) **Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?**

Less than Significant Impact. The Proposed Project is not anticipated to violate any water quality standards or waste discharge requirements. The Proposed Project will be completed in accordance with City standards for construction within a flood hazard zone as discussed in the City's adopted Master Drainage Plan and Los Angeles County Flood Control District regulations. Per the environmental document prepared for CUP 05-05, review of the project by the Public Works Engineering Department determined that the proposed bagging facility will not

result in increased peak runoff since drainage basins are on site. The Proposed Project would be designed and constructed in accordance with the stormwater pollution control requirements of the Lahontan Region of the California Regional Water Quality Control Board (RWQCB) and comply with applicable NPDES requirements. At present, the existing conditions and project site will expand from 20 acres to 30 acres utilized and wet aggregates will be used on site. Therefore, impacts will be less than significant.

b) **Would the project Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**

Less than Significant Impact. The Proposed Project will not result in the depletion of groundwater supplies by lowering levels of the water table. The Project Applicant will coordinate with Littlerock Creek Irrigation District and Palmdale Water District for the Project's water uses. The Project site will either be serviced by the Irrigation District via Palmdale Water District or be required to drill a private water well to supply domestic, industrial, and fire protection demands. Water used will be metered, and the water master will require the water used from a private well be replenished. Grading at excavation depths will not pass aquifer levels. With the excavation depths not reaching aquifer levels, and compliance with general plan policies, impacts will be less than significant.

c) ***i)*** **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course or a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on- or off-site?**

Less than Significant Impact. The Proposed Project will occur within the 30-acre site which is currently vacant and undeveloped and will not cross over or alter a course of a stream or river that would cause substantial erosion. The Littlerock Wash is located approximately one mile west of the Project area, and the Project area is located within a flood area zone with one percent annual chance of flood hazard (Zone AE according to the Federal Emergency Management Agency (FEMA). To avoid impacts to the current floodway, the Project will apply for an additional floodproofing permit application, alongside the building permit application, as well as submit either a Letter of Map Revision (LOMR) or Letter of Map Adjustment (LOMA) to FEMA prior to submittal of a grading permit. The floodproofing permit is required when processing an application for a development permit for land which lies within the Special Flood Hazard Area (SFHA). A LOMA would include providing new or more accurate data to FEMA that indicates the Project site is no longer in the floodplain, while a LOMR would demonstrate that the new Project structures being added to the floodplain do not alter flows offsite.

Submittal of a LOMA or LOMR will be conditioned as part of the Project's approval. Further, the Project will be constructed in accordance with the PMC Section 15.28.160, for floodway management and standards of construction. In addition, the Proposed Project will include on-site detention basins to mitigate impacts associated with storm flows. Therefore, impacts will be less than significant.

ii) **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course or a stream or river or through the addition of impervious surfaces, in a manner that would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

Less than Significant Impact. As discussed in the previous Section X threshold (b) and (c(i)), the Proposed Project will not result in substantially altering existing drainage patterns or alter the course of a stream or river. Parking lots and drive aisles will not be paved with permeable materials. However, storage areas (drive aisle and open storage) will be covered with a minimum of two inches of base material or similar to minimize any dust or erosion of surface. While construction of the Proposed Project includes the addition of impermeable surfaces that may increase surface runoff, including parking lots, access roads, and walkways, the City General Plan's policies SE-4 and SE-5 under the Safety Element provide guidance on utilizing flood control and recharge measures to maximize groundwater recharge and restrict building coverage to allow natural recharge (City of Palmdale 2022). Goals and objectives under the Safety Element for public services provide objectives in maintaining and implementing the Drainage Management Plan. In addition, the preparation of Storm Water Pollution Prevention Plan and implementation of BMPs during construction and operation of the Project will minimize surface runoff and maintain water quality and water discharge standards. Impacts will be less than significant.

iii) **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course or a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

Less than Significant Impact. As discussed in the previous Section VII threshold (d), while the Proposed Project includes the addition of impermeable surfaces that may increase surface runoff, implementing City policies on flood control, drainage management, and SWPPP and BMPs during construction and operation of the Project will minimize potential impacts contributing to surface water runoff. In

addition, privately maintained retention basins will be used to address stormwater runoff from the site. Impacts will be less than significant.

iv) **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course or a stream or river or through the addition of impervious surfaces, in a manner that would impeded or redirect flood flows?**

Less than Significant Impact. See previous response in Section VII threshold (g); as discussed in Section c)i), the Project area is located within a flood area zone. Therefore, the Project will apply for an additional floodproofing permit application, alongside the building permit application, as well as submit either a LOMR or LOMA prior to submittal of a grading permit. With attainment of necessary permits and approvals from FEMA and the County, impacts regarding the impedance or redirect of flood flows would be less than significant.

d) Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. The City of Palmdale is located inland in the high desert with the coastline located approximately 45 miles south from the City. The Project area is located approximately six miles east of Lake Palmdale. No inundation by seiche or tsunami will occur in the Project area, as it is not within a coastline and is not within the inundation area of Lake Palmdale. The Project area is relatively flat and is not anticipated to be inundated by mudflow. While the Project area experiences floods, on-site detention basins would mitigate potential flood impacts. Therefore, impacts will be less than significant.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. An Urban Water Management Plan (UWMP) was prepared for the Palmdale Water District in 2020.The construction and operational phases of the Proposed Project do not include activities that could obstruct the implementation of the UWMP (PWD 2021). Impacts would be less than significant.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI LAND USE AND PLANNING. Would the Project:					
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒	☐	☐

Project Impacts

A Focused Traffic Study (Appendix G) was prepared for the Proposed Project to analyze project traffic generation and recommend the appropriate traffic control at the Project driveways as requested by the City.

a) Would the project Physically divide an established community?

No Impact. The Proposed Project will not physically divide an established community, as the construction of the paver and bagging plant will remain within lands designated for industrial uses, will not involve any general plan or zoning changes, will not conflict with any habitat conservation plans, and is not within the Plant 42 Air Installation Compatible Use Zone (County 2022). Proposed Project design and configuration would not interfere with existing access to adjoining properties or the existing street circulation pattern; therefore, the Proposed Project would not require the expansion of existing roads or extension of new roads. No impact will occur.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact with Mitigation Incorporated. The Project area is zoned as MRE with designated land uses as MRE area (City 2023). The Proposed Project will not include any amendments to the general plan or rezoning. The existing conditions of the land area remain consistent with the designated zoning and land use designation.

Intersection level of service (LOS) analysis evaluates existing intersection geometrics and existing traffic volumes to determine AM and PM peak hour intersection level of services. The intersection capacity analysis evaluated the Project driveway at East Palmdale Boulevard. Signal warrants did not mandate the

installation of a signal as there are other factors or alternative traffic control strategies that need to be considered before selecting a traffic signal or a stop sign controlling the Project's driveway. Based on the analysis discussed in Appendix G, the AM and PM peak hours with a side street stop control, consisting of a stop sign at the Project driveway, would be at an LOS C, while a traffic signal control would result in an LOS B.

The Circulation and Mobility Element of the General Plan adopts policies and standards for street design and construction which would promote safety, convenience, and efficiency. Goals CM-1, CM-2 and CM-6 are outlined below:

> Goal CM-1: Build and maintain a transportation system that is safe and comfortable for travelers of all modes regardless of age or ability.
>
> Goal CM-2: Build and maintain a transportation system that accommodates future growth and maintains transportation networks for all modes.
>
> Goal CM-6: Build and maintain a transportation system that leverages the City's natural setting and reduces impacts to the environment.

In order for the Proposed Project to meet the General Plan policies for the circulation element, the Proposed Project shall implement the following mitigation measures for the Project to meet the circulation requirements and LOS along East Palmdale Boulevard.

Therefore, implementation of these mitigation measures would result in less than significant impacts as it relates to the land use and circulation of the Project site.

LU-1: The Proposed Project shall install a traffic signal at the intersection of East Palmdale Road.

LU-2: Dedication of property and widening along the Project's frontage with E Palmdale Boulevard to its ultimate half-width right of way (52-feet from centerline per General Plan Major Arterial Cross Section B).

LU-3: Provision of an exclusive eastbound right turn lane / deceleration lane into the project driveway.

LU-4: Provision an exclusive westbound left turn and deceleration lane in the median of East Palmdale Boulevard for inbound access to the site with appropriate lateral transitions for the given speeds (posted 55 mph) on East Palmdale Boulevard.

LU-5: Construction of a sufficiently wide driveway to accommodate two departing lanes (exclusive left turn and right turn lanes) and one ingress lane with adequate curb return radii to accommodate the Proposed Project's typical design vehicle without encroachment into opposing lanes. The width of the driveway shall be reviewed by the City Engineer and be designed in conformance with guidelines for commercial driveways by the County.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII MINERAL RESOURCES. Would the Project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐

Project Impacts

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Less than Significant Impact. The Proposed Project is located within an area containing significant mineral resources (DOC 1984). The Project area is zoned for mineral resource extraction and is consistent with land use and zoning designations. Construction and operation of the facility will be maintained within the 30-acre site. The paver plant will utilize aggregate materials from adjacent mining operations. Mining of the aggregates has been previously studied at a state level and will not result in the substantial depletion of this resource. Impacts will be less than significant.

b) Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Less than Significant Impact. See previous Section XII (a); the Proposed Project is located within an area containing significant mineral resources. While the project area is located within an area zoned for MRE, the Project site does not contain an active or inactive mine nor is it designated as an important mineral resource recovery site. According to the DOC Mines Online mapping, the nearest mine to

the Project site is the 75th Street Quarry and Recycling Facility located approximately 300 feet southwest of the southernmost property line. The Proposed Project's activities do not include direct mining of resources. The Proposed Project activities consists of packaging wet aggregates and production of pavestone and pavers. The wet aggregates would utilize aggregate materials from local mining operations and will not result in the substantial depletion of resources. Therefore, impacts will be less than significant.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII	NOISE. Would the Project:				
a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b)	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Project Impacts

An Acoustical Analysis Study was prepared by Christopher Jean & Associates, Inc. on September 2023 (Appendix F) that includes a discussion of the existing community noise environment and the recommendations for control of the Proposed Project noise impacts upon the surrounding land uses.

a) Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact.

Applicable Noise Criteria

The Project site and surrounding land uses are exposed to noise from Palmdale Boulevard and 75th Street East. The City of Palmdale does not have a noise ordinance beyond a nuisance ordinance. The City of Palmdale and the California

Green Building Standards (CALGreen) require all nonresidential projects to conform to the requirements below:

APPLICABLE NOISE CRITERIA

Exterior	None
Interior	55 dBA L_{eq} (one hour)
Unit-to-Unit	Not Applicable

Existing Noise Levels

Roadways

The expected future roadway noise impact was projected using the Federal Highway Administration's Highway Noise Prediction Model (FHWA RD-77-108) together with several roadway and site parameters that determine the projected impact of vehicular traffic noise. These include the roadway cross section (e.g., number of lanes), the roadway active width, the average daily traffic (ADT), the vehicle travel speed, the percentage of auto and truck traffic, the roadway grade, the angle of view, the site conditions ("hard" or "soft" site), and the percentage of average daily traffic that flows each hour throughout a 24-hour period.

The forecast traffic volumes were obtained from a hand count performed on site. The calculations are contained in the appendices of the Acoustical Analysis (Appendix F). The calculations yield design noise levels of 68 A-weighted decibels (dBA) L_{eq} (one hour) at 50 feet from the centerline of Palmdale Boulevard, 63 dBA L_{eq} (one hour) at 100 feet, and 59 dBA L_{eq} (one hour) at 200 feet. L_{eq} is the sound level in decibels equivalent to the total sound energy measured over a stated period of time.

No railroad operations occur in the vicinity, and the Project site is not within the Plant 42/Palmdale Airport Noise Contours.

Operation

Estimations for the plant noise levels were based off levels measured at the Quikrete Corona Plant with no noise reduction measures incorporated. Table 7 shows the reference noise levels for the Proposed Project.

Table 7. Reference Noise Measurements

Source	L_{max}	L_{eq}	L_{min}
Dry Blower	94	92	91
Concrete Block Plant	94	84	77
Heavy Trucks (idling)	74	73	72
Fork Lift	72	62	58

Leq: Equivalent continuous sound level

Lmax: Maximum sound level

Lmin: Minimum sound level

Source: Appendix F

The Project installation will include noise-reducing devices so that some of the Project noise levels will be reduced from the reference plant. The concrete block plant and paver plant enclosures will reduce the noise levels of those operations by a net 22 dBA, assuming that the buildings are steel with some type of sound absorption material installed on the interior wall and ceiling surfaces. The dryer blower intake silencer will provide a minimum of 15 dBA of noise reduction. The noise reduction produced by the dryer drum depends on the distance of the nearby sensitive land uses. The nearest existing residential use is approximately 600 feet from the dryer. The nearest residential zoning is about 750 feet from the dryer. The dryer drum is 25 feet above the ground surface. The calculated noise reduction is 13 dBA with sound panels 10 feet high. Table 8 provides the modeled noise levels at 40 feet with noise reduction measures incorporated into the Project design.

Table 8. Noise Levels at 40 Feet with Noise Reduction Measures

Source	L_{max}	L_{eq}	L_{min}
Dry Blower	81	79	78
Concrete Block Plant	72	62	59
Heavy Trucks (idling)	74	73	72
Fork Lift	72	62	58

Source: Appendix F

The nearest actual residential use appears to be on the east side of 75th Street East (in the MRE zone) about 400 feet from the west side of the Project site. Table 9 shows the noise levels at the nearest residential use:

Table 9. Project Noise Levels at Nearest Residential Use

Source	L_{max}	L_{eq}	L_{min}
Dry Blower	61	59	58
Concrete Block Plant	52	42	39
Heavy Trucks (idling)	54	53	52

Fork Lift	52	42	38

Source: Appendix F

On a Community Noise Equivalent Level (CNEL) basis, the Project will comply with the 65-dBA CNEL residential exterior noise limit at both the nearest existing residential use as well as at the nearest residentially zoned land. The Project noise levels will increase the ambient noise levels at the nearest residential use on the east side of 75th Street East. Table 10 shows the change in noise level at the nearest residential land use.

Table 10. Change in Noise Level at Nearest Residential Use

Condition	L_{max}	L_{eq}	L_{min}	CNEL
Existing	52	51	50	53
Existing + Plant	63	61	60	67
Change	+11	+10	+10	+14

Source: Appendix F

The Proposed Project includes design features to manage the Project noise. The dryer platforms will be designed to include 10-foot panels and blowers to be equipped with silencers. The facilities will be constructed to be fully enclosed during operations. Based on the analysis of the Proposed Project's noise levels, in addition to the facility design, impacts would be less than significant.

b) Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact. Groundborne vibration is an oscillatory motion that is often described by the average amplitude of its velocity in inches per second or, more specifically, peak particle velocity. Groundborne vibration is much less common than airborne noise. The Proposed Project would not cause groundborne vibration to impact sensitive receptors because it does not included activities with the potential to create excessive vibration such as pile driving or blasting. In addition, the Proposed Project would comply with the City's Municipal Code in prohibiting construction noise anytime on Sundays and prior to 6:30 AM and after 8:00 PM on weekdays and Saturdays. Impacts would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. As discussed in threshold (a), the Proposed Project is not located within an airport land use plan, or within two miles of a public airport. No impact would occur.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV	POPULATION AND HOUSING. Would the Project:				
a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

Project Impacts

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less than Significant Impact. The Proposed Project will not induce substantial population growth in the area directly or indirectly, as the Project activities do not involve the development of new housing or extension of roads. While the Proposed Project may create new employment opportunities within the community, the employment availability will not be significant enough to warrant an increase in available housing. Any potential population increase would be less than significant. Impacts will be less than significant.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Less than Significant Impact. As stated in the previous threshold (a), the Proposed Project will not displace existing housing or necessitate the construction of replacement housing, as new employment opportunities from the facility will not

be significant enough to warrant an increase in available housing. Impacts will be less than significant.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV	PUBLIC SERVICES. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a)	Fire protection?	☐	☐	☒	☐
b)	Police protection?	☐	☐	☒	☐
c)	Schools?	☐	☐	☐	☒
d)	Parks?	☐	☐	☐	☒
e)	Other public facilities?	☐	☐	☐	☒

Project Impacts

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?

Less than Significant Impact. The nearest fire station to the Project area is located at 5624 East Avenue R, the Los Angeles County Fire Station No.93, approximately two miles southwest from the Project site (LACFD 2022). The Applicant will be providing on-site fire suppression and protection resources in compliance with the City ordinance to reduce impacts to fire protection services. Impacts will be less than significant.

b) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

Less than Significant Impact. The Proposed Project will not result in substantial impacts or interruption of police protection services. The City of Palmdale contracts with the Los Angeles County Sheriff's Department for law enforcement services

and crime deterrence within the City (City of Palmdale 2022b). All new projects are reviewed by the City for law enforcement needs. Due to the remote location of the Project area, with low traffic and access to other commercial and residential areas, the Proposed Project is not expected to result in an increased need for police protection services. Added security measures for the Proposed Project will include utilizing on-site security cameras. Therefore, impacts will be less than significant.

c) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

No Impact. The Proposed Project consists of development of a paver and bagging plant within a vacant 30-acre site. The Proposed Project will not result in degrading the performance, quality, or access to nearby schools, as the Proposed Project does not involve the use of schools or school property. The nearest schools are located approximately one mile southwest of the project area: Los Amigos School, Pete Knight High School, and Knight Prep Academy, which are situated between 65th Street East and 70th Street East (Google 2022). No impact will occur.

d) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?

No Impact. The Proposed Project consists of development of a paver and bagging plant within a vacant 30-acre site. The nearest park to the Proposed Project is Dominic Massari Park, approximately two miles southwest of the Project site (Google 2022). The Proposed Project will not alter the quality or access to nearby parks in the area. No impact will occur.

e) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities?

No Impact. The Proposed Project consists of development of a paver and bagging plant within a vacant 30-acre site. It will not alter the quality of or access to any other public facilities such as libraries, hospitals, or recreational trails. No impacts will occur.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI	RECREATION. Would the Project:				
a)	Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b)	Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒

Project Impacts

a) Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. As discussed in XV threshold (d), the Proposed Project consists of development of a paver plant within a vacant 30-acre site. The Proposed Project would utilize the local workforce and not create additional demand for recreational facilities. It will not alter the quality or access of any neighborhood or regional parks or other recreational facilities. No impact will occur.

b) Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The Proposed Project consists of development of a paver and packaging plant within a vacant 30-acre site. The Proposed Project would utilize the local workforce and not create additional use of recreational facilities. The

Proposed Project will not require the construction or expansion of recreational facilities in the area. No impact will occur.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII	TRANSPORTATION. Would the Project:				
a)	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths?	☐	☒	☐	☐
b)	Conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b)?	☐	☒	☐	☐
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curve or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☒	☐
d)	Result in inadequate emergency access?	☐	☐	☒	☐

Project Impacts

A Focused Traffic Study (Appendix G) was prepared for the Proposed Project to analyze project traffic generation and recommend the appropriate traffic control at the Project driveways as requested by the City.

a) and b) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths?

Less than Significant Impact with Mitigation Incorporated. The Proposed Project site is vacant and is bounded by Palmdale Boulevard, a designated truck route, to the north and by undeveloped land to the west, south, and east. Primary access to the Proposed Project is from Palmdale Boulevard, a two-lane roadway, with one-lane in each direction with two access driveways being proposed.

As discussed in Section XI(b), the Focused Traffic Study identified that the Project will require LU-1 to LU-6 to address circulation and land use impacts of the Proposed Project. Currently the City of Palmdale uses Los Angeles County guidelines and thresholds for VMT impact analysis. The Proposed Project consists of operating an industrial facility within a mineral land use area. The vehicles trips analyzed resulted in 726 daily trips (Appendix G) and is below the VMT thresholds in the County.

The Circulation and Mobility Element of the General Plan adopts policies and standards for street design and construction which would promote safety, convenience, and efficiency. Goals CM-1, CM-2 and CM-6 are outlined below:

> Goal CM-1: Build and maintain a transportation system that is safe and comfortable for travelers of all modes regardless of age or ability.
>
> Goal CM-2: Build and maintain a transportation system that accommodates future growth and maintains transportation networks for all modes.
>
> Goal CM-6: Build and maintain a transportation system that leverages the City's natural setting and reduces impacts to the environment.

Other goals specific to Palmdale Boulevard throughout the City are provided in the following sections:

- Goal LUD-8: A place that encourages and supports its local arts and community culture.
- Goal LUD-11: An activated and attractive Palmdale Boulevard.
- Goal LUD-12: A total of three Health and Wellness-oriented Districts.
- Goal LUD-13: Emergence of new education-focused districts along Palmdale Boulevard.
- Goal EHC-2: A City with high-quality educational services and facilities in all neighborhoods, especially disadvantaged communities
- Goal EHC-4: A City committed to supporting health equity and promoting access to high-quality health care.

The implementation of the mitigation measures discussed in Section IX(b) would result in the Proposed Project maintaining adequate LOS along East Palmdale Boulevard. The Proposed Project would not conflict with a congestion management or circulation plan and would not exceed the VMT thresholds. The Proposed Project does not include activities that would remove any pedestrian or bicycle paths. Additionally, the Proposed Project would not disrupt Palmdale Boulevard's designation as a truck route as per the General Plan Update. Impacts would be less than significant with mitigation incorporated.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curve or dangerous intersections) or incompatible uses (e.g. farm equipment)?

Less than Significant Impact with Mitigation Incorporated. The Proposed Project will not substantially increase hazards due to design features. However, the additional driveways at the Project site would result in changing the circulation flow of East Palmdale Boulevard with trucks entering and exiting the Project site.

The Focused Traffic Study also analyzed the amount of time required for heavy laden trucks exiting the facility and the speed of traffic on East Palmdale Road. The analysis showed that trucks require an 11.5 second gap in the flow of traffic, with an additional 0.7 seconds to cross each lane. The analysis showed that trucks require 13.42 seconds gap of traffic in both directions to complete a turn without existing traffic having to decelerate appreciably along East Palmdale Boulevard.

The analysis concludes that the combination of speeds on East Palmdale Road and the time required for heavily laden trucks to exit the Project site and complete turns onto East Palmdale Road increase the potential for severe collisions. This conclusion, combined with satisfying a warrant signal (warrant 3) in the PM peak hour, leads to a recommendation to install a traffic signal at the intersection of East Palmdale Road and the Proposed Project driveway to allow the necessary time gap for trucks turning into the roadway.

Because of the change in circulation, the Proposed Project will implement LU-1 through LU-6 to address the change in circulation of the Project site. Therefore, impacts would be less than significant.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. As described in Section XVII threshold (a), the Proposed Project is expected to generate a total of 726 trips. The Proposed Project will be constructed in compliance with the Los Angeles County Fire Department standards regarding emergency access. The Proposed Project would not interfere substantially with an adopted emergency or evacuation plan. Impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII TRIBAL CULTURAL RESOURCES. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) to Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Project Impacts

Refer to the Cultural Resources Section V for discussion on the Phase I Cultural Resources Inventory prepared for the Proposed Project.

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

No Impact. An intensive pedestrian survey was conducted in the project area in 2021 (Appendix C). The survey did not identify any cultural resources, intact landforms, or resources that may be potentially eligible to be listed in the California Register of Historical Resources. While two potentially historic resources are within an 8-mile radius along Palmdale Boulevard, none are within the project area or immediate vicinity. No impact will occur.

b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) to Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant Impact. Assembly Bill 52 requires public agencies to consult with tribes that may have a traditional affiliation to the a project area to gather information on a site's sensitivity and identify if any mitigation measures would be required to preserve discovered or undiscovered tribal cultural resources. On January 26, 2023, the City received a request from the Fernandeño Tataviam Band of Mission Indians to consult on the Project. The City submitted the requested studies to the tribe along with a meeting with a tribal representative. The tribal representative indicated that the Project site was categorized as medium sensitivity due to the fact that tribal cultural resources have not been recorded, however, there is still likelihood subsurface resources could be inadvertently discovered during project activity. This is due to resources that are within a 3-mile radius, its location to be situated between two villages, and that the Project site has pre and post-contact activity indicating the body of water was utilized by Native Americans. Due to these conditions, the following mitigation measures will be incorporated into the Project.

Mitigation Measures

MM TCR-1: Prior to the start of construction, a Qualified representative of the Fernandeño Tataviam Band of Mission Indians shall be retained by the Project Applicant to conduct a Tribal Cultural Resources Worker Environmental Awareness Program (WEAP) training for construction personnel regarding the aspects of Tribal Cultural Resources and the procedures for notifying the Fernandeño Tataviam Band of Mission Indians should Tribal Cultural Resources be discovered by construction staff.

MM TCR-2: If cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards retained by the Project Applicant shall assess the find. Work on the portions of the Project outside of the buffered area may continue during this assessment period. The Fernandeño

Tataviam Band of Mission Indians (FTBMI) shall be contacted about any pre-contact and/or post-contact finds and be provided information after the archaeologist makes their initial assessment of the nature of the find, to provide Tribal input with regards to significance and treatment.

a) Should the find be deemed significant, as defined by CEQA (as amended, 2015), the Project Applicant shall retain a professional Native American monitor procured by the FTBMI to observe all remaining ground-disturbing activities including, but not limited to, excavating, digging, trenching, plowing, drilling, tunneling, quarrying, grading, leveling, clearing, driving posts, auguring, blasting, stripping topsoil or similar activity, and archaeological work.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX	UTILITIES AND SERVICE SYSTEMS. Would the Project:				
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d)	Generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure?	☐	☐	☒	☐
e)	Negatively impact the provision of solid waste services or impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
f)	Comply with federal, state and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Project Impacts

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication, the construction or relocation of which could cause significant environmental effects?

Less than Significant Impact. The Proposed Project, while vacant, is surrounded by some existing development ranging from residential to industrial uses. The Project area will use nearby connections for its utility needs.

The Project would connect to existing power facilities provided and located along Palmdale Boulevard. Connections for telecommunications would utilize nearby connections including those in Palmdale Boulevard. Gas will be provided by Southern California Gas utilizing infrastructure in Palmdale Boulevard.

The Proposed Project would be required to demonstrate compliance with Goals PSFI-2 of the Public Facilities, Services and Infrastructure Element of the General Plan. Goals PSFI-3 and CON-5 outlines waste, water, and wastewater goals to ensure that there is adequate water service to meet the increased service needs generated by the development, and protects the quality and quantity of these resoruces (City of Palmdale 2022a). Compliance with this regulation would ensure that impacts associated with water supply are alleviated. The Proposed Project would either be serviced by the Littlerock Creek Irrigation District (LCID) using an interconnection with Palmdale Water District (PWD) or be serviced by a private well to supply its water demands. The selected water resource would be based on coordination with the Applicant, City and LCID. Both the well and LCID have capacity to serve the Project site (refer to projected water demands discussion below). The Proposed Project will not result in the relocation or construction of new utility connections. Impacts will be less than significant.

b) Would the project Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less than Significant Impact. The Proposed Project consists of a development of an industrial facility that consist of a paver and bagger plant facility. As previously discussed, the Project area may be serviced by LCID or via private water well. PWD receives its water resources from the California Aqueduct, Littlerock Dam, and through the District's water wells. According to the Urban Water Management Plan by the City of Palmdale, the demand projections for industrial facilities are 4.06 acre-feet per year, per acre which equates to approximately 1.3 million gallons per year per acre (approximately 39.7 million gallons per year for a 30-acre

site). The Proposed Project is estimated to use 22,000 gallons per day at maximum operations with the project used per the Project site acreage. This would result in approximately 8 million gallons per year which is within the projected demand for industrial uses. Impacts therefore as less than significant as the Project would be adequately serviced by existing water service providers.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less than Significant Impact. The wastewater generated by the Proposed Project would be treated by a private on-site septic sewer system that would meet the estimated output discussed in threshold (a). Impacts would be less than significant.

d) Would the project generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure?

Less than Significant Impact. The Antelope Valley region's waste and recycling collection services are provided by the Waste Management, Inc. Antelope Valley Public Landfill receives the wastes generated by the City. The remaining capacity of Antelope Valley Landfill is estimated at 12.9 million tons and a remaining life of 23 years as of 2016 according to the Los Angeles Integrated Waste Management Plan. The Proposed Project construction and operational wastes would be diverted to recycling facilities or made available for reuse when appropriate to reduce waste. The Proposed Project would comply with the City's General Plan's solid waste goas (Goal SCR-5) to increase resource capture and reduce waste sent to landfills (City of Palmdale 2022). Impacts would be less than significant.

e) Would the project negatively impact the provision of solid waste services or impair the attainment of solid waste reduction goals?

Less than Significant Impact. The Proposed Project would comply with the Solid Waste Management Plan (SWMP) and with PMC Chapter 5.52 (Solid Waste Handling and Recycling Service) to ensure that facilities and programs would accommodate solid waste and hazardous waste collection, handling, and disposal. Compliance with the code would ensure source reduction of the solid waste stream and diversion of solid waste from landfills. The code is implemented to ensure compliance with Assembly Bill (AB) 341, which establishes reduction goals. The Proposed Project would also comply with the City's General Plan goals for waste reduction and recycling. Impacts would be less than significant.

f) Would the project comply with federal, state and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. The City of Palmdale has a franchise agreement with Waste Management, Inc. that requires all residential, commercial and industrial developments within the City of Palmdale to maintain trash service with Waste Management, Inc. The Proposed Project would be required to participate in reduction and recycling programs to reduce the amount of solid waste delivered to the Antelope Valley Public Landfill.

The Proposed Project will comply with the City's General Plan goals and policies to ensure provision of adequate facilities and programs to accommodate solid waste disposal (Goal SCR-5). Compliance with these goals, and with Goals PSFI-6 which requires coordination with, "utility providers to support adequate provision of critical utilities," would minimize impacts associated with solid waste regulations (City of Palmdale 2022a). Therefore, implementation of the Proposed Project would result in a less than significant impact associated with regulations related to solid waste.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:				
a) Impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope. Prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or uncontrolled spread of wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water resources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Project Impacts

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project impair an adopted emergency response plan or emergency evacuation plan?

No Impact. As stated in Section IX threshold (g), the Proposed Project is not located within a Very High Fire Hazard Severity Zone (City of Palmdale 2015). According to the General Plan, goals and policies related to emergency planning and response include:

Goal SE-2: Minimize public health, safety, and welfare impacts resulting from wildfire hazards.

> *Policy SE-2.7: Emergency Access Routes for Wildfire Hazard Zones. Require all new development in or near designated wildfire hazard zones to identify multiple evacuation/emergency access routes and file with City.*
>
> *Policy SE-2.8: Los Angeles County Fire Department Coordination. Continue to coordinate with the Los Angeles County Fire Department to provide emergency evacuation support and address fire hazards (City of Palmdale 2022a).*

Implementation of the Proposed Project would not result in affecting the goals and policies for emergency and evacuation plans. No roads would be permanently closed as a result of the construction or operation of the Project, and no structures would be developed that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The Proposed Project would be accessed by two driveways along Palmdale Boulevard. This driveway would provide sufficient ingress/egress for the Project site. The Project would not prohibit subsequent programs or plans from being established or prevent the goals and objectives of existing plans from being carried out. Thus, no impact would occur

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or uncontrolled spread of wildfire?

No Impact. As stated in threshold (a) above, the Proposed Project is not within a Very High Fire Hazard Severity Zone and is located within a flat, low-lying area of

the city with minimal elevation changes or steep slopes. The Proposed Project would not exacerbate wildfire risks. No impact would occur.

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water resources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. As stated in threshold (a) above, the Proposed Project is not within a Very High Fire Hazard Severity Zone and would not exacerbate wildfire risks. The Project is located within a rural area and would involve the partial development of the majority of the Project site with structures. Fuel breaks are not expected to be required as part of the Project. Construction BMPs, such as ensuring equipment has spark arresters installed, would ensure temporary construction does not exacerbate fire risks in the area. No impact would occur.

d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. As stated in threshold (a) and (b) above, the Proposed Project is not within a Very High Fire Hazard Severity Zone and is located in a flat, low-lying area with minimal chance for downstream impacts. As discussed in Section X, Hydrology and Water Quality, development of the Project would introduce more impervious surfaces, which would increase the volume of stormwater runoff from the site. This increase in runoff volume could also increase the rate of surface runoff and flooding on or off site. However, landscaping of the Project area would help reduce off-site flows and reduce runoff volumes and rates. Furthermore, the Project would comply with all NPDES requirements, Los Angeles County's Municipal Separate Storm Sewer System (MS4) Permit, and the City's runoff requirements and would therefore not significantly increase the rate of surface runoff and flooding on or off site. The Project site is flat and does not contain any slopes that pose a risk of landslide or slope instability. No impact would occur.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI	MANDATORY FINDINGS OF SIGNIFICANCE				
a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion

The following are Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant Impact with Mitigation Incorporated. As analyzed in the 2022 Biological Habitat Assessment Report, the Project area was not found to have evidence of the presence of any state or federally listed endangered, threatened, rare, or sensitive species of animal. While a portion of the Project area is partially located within the Antelope Valley Significant Ecological Area, no rare species were identified on site, and no evidence was found of desert tortoise existing on site. The 2022 Biological Habitat Assessment Report identified the

Project area as a suitable habitat and within the range of the Mohave ground squirrel, desert kit fox, and burrowing owl with recommended surveys.

The Project area was surveyed and was found to contain approximately 79 Western Joshua trees which would be moved or relocated as part of the Proposed Project. Given its status in being petitioned as a candidate threatened species, in addition to the potential presence of certain species on the Project area, the Proposed Project will implement mitigation measures MM BIO-1 through MM BIO-5 to reduce impacts to a less than significant level. With compliance and implementation of these mitigation measures, the Proposed Project will not result in the substantial reduction of a habitat or threaten to eliminate a natural community.

Based on the consultation with the Fernandeño Tataviam Band of Mission Indians, mitigation measures will be implemented to address the potential impacts to undiscovered resources within the Project site due to its sensitivity (MM TCR-1 and MM TCR-2). Impacts will be less than significant with previously described mitigation incorporated.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant Impact. The City of Palmdale Capital Improvement General Projects, Parks and Recreation, Street, Traffic, and Watershed projects for 2016 – 2026 do not identify any future project work along Palmdale Boulevard between 75th Street East and 90th Street East. While street widening projects are planned along Palmdale Boulevard, none have been listed to occur within the Project area. The Proposed Project will not result in impacts that would be cumulatively considerable, as no other projects have been identified to occur within the Project. Impacts will be less than significant.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact. Based on the results of the technical studies and analysis of the IS, the Proposed Project will not result in substantial adverse effects. The Project area would be utilized for industrial purposes, which is consistent with the General Plan land use designations. The Proposed Project will not occur within a heavily urbanized area. The Project area and Project vicinity at present are currently vacant with land uses designated as industrial, quarry reclamation, and mineral resource extraction uses.

Direct and indirect impacts to human beings typically originate from air quality, greenhouse gas, noise, hazardous materials, transportation design features, ground shaking and wildfire. As discussed in this study, it was found that impacts would be less than significant to these environmental areas with compliance with City and building guidelines. No mitigation measures would be required and therefore, impacts would be less than significant.

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6. Appendices

Appendix A – Air Quality Study
Appendix B – Biological Resource Report
Appendix C – Cultural Resources Report
Appendix D – Geotechnical Engineering Report
Appendix E – Phase I ESA
Appendix F – Acoustical Analysis Quikrete Plant
Appendix G – Trip Generation Memo

Date: July 8, 2022
To: Mr. Barry Munz, Antelope Valley Engineering, Inc.
From: M. S. Hatch Consulting, LLC
Subject: Air Quality Study – Quikrete Concrete Bagging and Pavers Manufacturing Plant, Palmdale, CA

M. S. Hatch Consulting, LLC (MSHC) appreciates the opportunity to prepare the air quality study for Antelope Valley Engineering, Inc. for the proposed construction and operation of the Quikrete concrete bagging and pavers manufacturing plant. The manufacturing plant would be constructed on approximately 31 acres, located in the City of Palmdale. This air quality study includes the estimated criteria pollutant and greenhouse gas (GHG) emissions from the construction and operation of the proposed project, and the toxic emissions from the operation of the proposed project,

Executive Summary

Table 1 and Table 2 compare the estimated annual and daily emissions summaries from the construction and operation of the proposed manufacturing plant to the significant emission thresholds described in the Antelope Valley Air Quality Management District (AVAQMD) California Environmental Quality Act (CEQA) and Federal Conformity Guidelines, dated August 2016, included in Attachment A. The estimated emissions of criteria pollutants and greenhouse gases for each year of construction as well as total operational emissions **are below the applicable thresholds**. GHG emissions are presented in units of carbon dioxide equivalent (CO_2e).

The AVAQMD CEQA Guidelines require certain projects to be evaluated for potentially exposing sensitive receptors to substantial pollutant concentrations.[1] Due to the close proximity (approximately 400 feet) of three residences and because this proposed project is classified as industrial, the proposed manufacturing plant meets the criteria for the project types that must be evaluated for potentially exposing sensitive receptors to substantial pollutant concentrations. As such, toxic air contaminants (TAC) emissions were calculated using the California Air Resources Board (CARB) Hotspots Analysis and Reporting Program Version 2 (HARP 2) and the project was evaluated for potential health risks to sensitive receptors. Table 3 summarizes the cancer risk, and noncancer chronic, 8-hour and acute hazard index (HI) for the three residences located near the proposed project site. All risk levels **are below the acceptable thresholds**.

[1] Residences, schools, daycare centers, playgrounds and medical facilities are considered sensitive receptor land uses. The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated using significance threshold criteria number 4 (refer to the significance threshold discussion): any industrial project within 1000 feet; a distribution center (40 or more trucks per day) within 1000 feet; a major transportation project (50,000 or more vehicles per day) within 1000 feet; a dry cleaner using perchloroethylene within 500 feet; or a gasoline dispensing facility within 300 feet.

Table 1. Annual Emissions Summary and Significance Thresholds

Emissions Source	Total Emissions (tons per year)						
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$	CO_2e
Year 1 Construction Emissions (2023)	0.58	4.64	5.69	0.02	0.95	0.38	1,492
Year 2 Construction Emissions (2024)	0.58	0.14	0.25	< 0.01	0.02	0.01	38
Total Operational Emissions	0.96	3.07	17.67	0.01	0.50	0.18	2,099
Significant Emissions Threshold	**25**	**25**	**100**	**25**	**15**	**12**	**100,000**

Table 2. Daily Emissions Summary and Significance Thresholds

Emissions Source	Total Emissions (pounds per day)						
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$	CO_2e
Year 1 Construction Emissions (2023)	4.83	53.69	47.53	0.13	7.52	3.65	13,158
Year 2 Construction Emissions (2024)	56.57	9.56	15.12	0.02	1.06	0.46	2,342
Total Operational Emissions	5.88	19.58	119.30	0.12	3.66	1.55	17,239
Significant Emissions Threshold	**137**	**137**	**548**	**137**	**82**	**65**	**548,000**

ROG: Reactive Organic Compounds, used interchangeably with Volatile Organic Compounds (VOC); NO_X: oxides of nitrogen; CO: Carbon monoxide; SO_X: Oxides of sulfur; $PM_{2.5}$: particulate matter less than 2.5 micrometers in diameter; PM_{10}: particulate matter less than 10 micrometers in diameter; CO_2e: Carbon dioxide equivalent

Table 3. Cancer and Noncancer Chronic, 8-hour and Acute HI Levels

Sensitive Receptor	Cancer	Chronic HI	8-hour Chronic HI	Acute HI
38260 75th St E, Palmdale, CA 93552 (located west of the proposed project)	4.53E-06	0.010	0.005	0.19
38138 75th St E, Palmdale, CA 93552 (located southwest of proposed project)	1.88E-06	0.005	0.002	0.12
38138 75th St E # 2, Palmdale, CA 93552 (located southwest of proposed project)	2.21E-06	0.006	0.003	0.13
Significant Risk Threshold	**1.0E-05**	**1**	**1**	**1**

Project Description

The proposed project includes the construction of a concrete bagging and pavers manufacturing plant on approximately 31 acres of land. The project site is currently a vacant lot located southeast of Palmdale Boulevard and 75th Street East in the City of Palmdale. The site location is included in Figure 1 and the proposed site plan is included in Figure 2.

Figure 1. Regional Vicinity

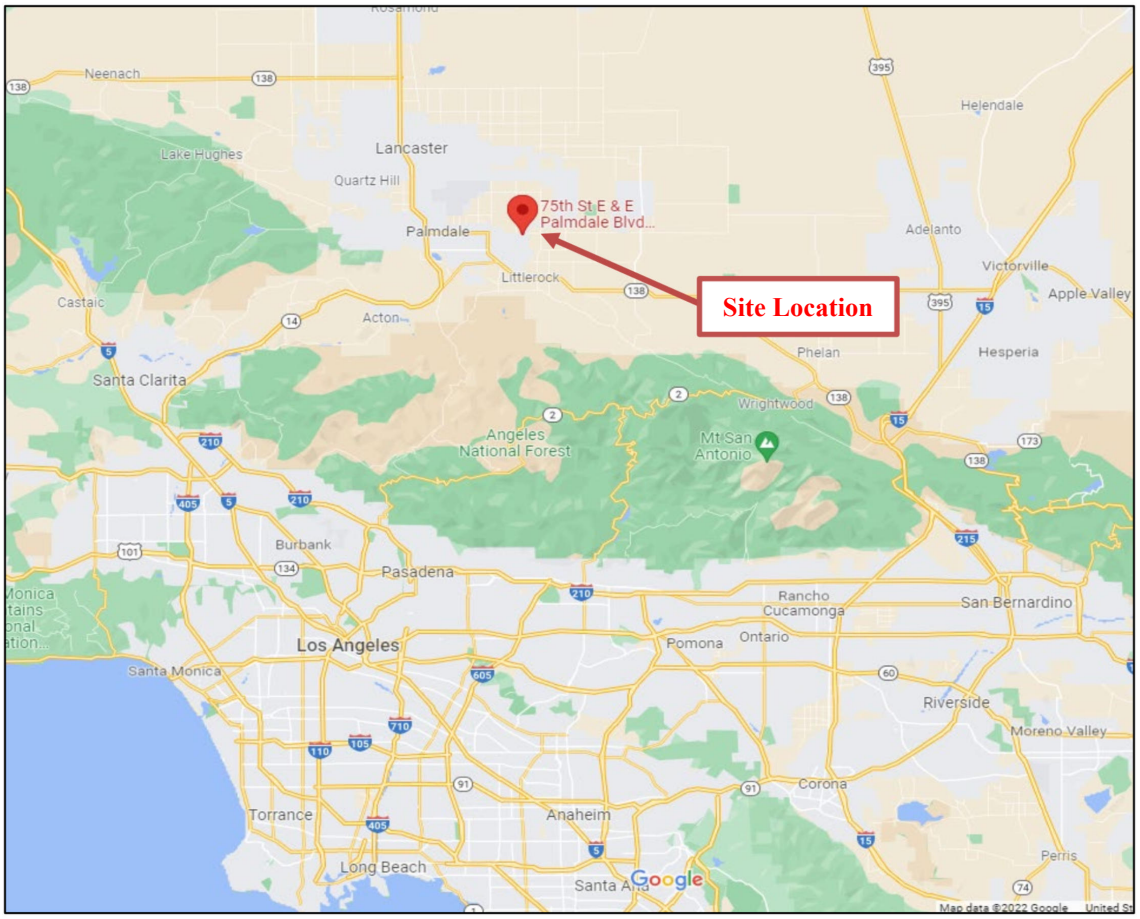
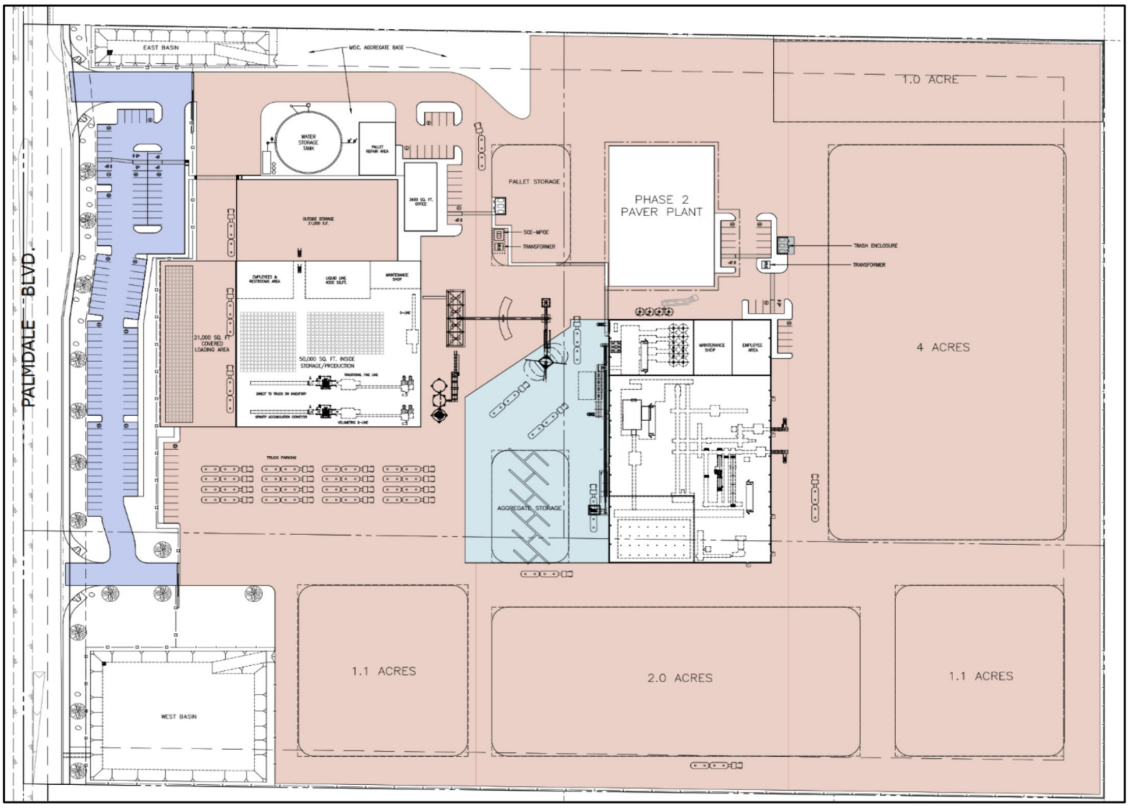


Figure 2. Site Plan – Proposed Concrete Bagging and Pavers Manufacturing Plant, Palmdale, CA



Sources of Emissions

The emissions associated with the proposed project consist of construction and operational emissions. Construction emissions are temporary and include emissions of criteria pollutants and greenhouse gases from construction activities during site preparation, grading, paving, building construction, and architectural coating. Operational emissions consist of area sources (e.g., re-applying architectural coatings, landscaping equipment), energy (i.e., electricity and natural gas use), mobile sources (e.g., workers commuting, shipping, and receiving vehicles), off-road vehicle sources (e.g., forklifts, loader), and stationary sources (e.g., fire pumps and process boilers).

Emissions Estimates

Tables 4 and 5 present the annual and daily emissions summaries from the construction and operation of the proposed project, respectively. Emissions were estimated using CalEEMod Version 2020.4.0. The detailed emissions model outputs are included in Attachment B.

Table 4. Annual Construction and Operational Emissions Summary

Emissions Source	Total Emissions (tons per year)						
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$	CO_2e
Year 1 Construction Emissions (2023)	0.58	4.64	5.69	0.02	0.95	0.38	1,492
Year 2 Construction Emissions (2024)	0.58	0.14	0.25	< 0.01	0.02	0.01	38
Operational Emissions							
Area Sources	0.76	< 0.01	< 0.01	0.00	< 0.01	< 0.01	0
Energy	0.02	0.14	0.12	< 0.01	0.01	0.01	480
Mobile Sources	0.13	1.67	1.67	0.01	0.45	0.13	817
Offroad	0.04	1.23	15.67	< 0.01	0.02	0.02	328
Stationary	0.01	0.02	0.20	< 0.01	0.02	0.02	221
Waste	N/A	N/A	N/A	N/A	0.00	0.00	102
Water	N/A	N/A	N/A	N/A	0.00	0.00	150
Total Operational Emissions	**0.96**	**3.07**	**17.67**	**0.01**	**0.50**	**0.18**	**2,099**
Significant Emissions Threshold	**25**	**25**	**100**	**25**	**15**	**12**	**100,000**

Table 5. Daily Construction and Operational Emissions Summary

Emissions Source	Total Emissions (pounds per day)						
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e
Year 1 Construction Emissions (2023)	4.83	53.69	47.53	0.13	7.52	3.65	13,158
Year 2 Construction Emissions (2024)	56.57	9.56	15.12	0.02	1.06	0.46	2,342
Operational Emissions							
Area Sources	4.19	< 0.01	0.04	0.00	< 0.01	< 0.01	0
Energy	0.09	0.79	0.66	< 0.01	0.06	0.06	955
Mobile Sources	0.98	10.12	11.55	0.05	2.94	0.83	5,908
Offroad	0.26	7.92	100.47	0.02	0.15	0.15	2,320
Stationary	0.37	0.75	6.58	0.04	0.51	0.51	8,056
Waste	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Emissions Source	Total Emissions (pounds per day)						
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e
Water	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Operational Emissions	**5.88**	**19.58**	**119.30**	**0.12**	**3.66**	**1.55**	**17,239**
Significant Emissions Threshold	**137**	**137**	**548**	**137**	**82**	**65**	**548,000**

ROG: Reactive Organic Compounds, used interchangeably with Volatile Organic Compounds (VOC); NO_X: oxides of nitrogen; CO: Carbon monoxide; SO_X: Oxides of sulfur; $PM_{2.5}$: particulate matter less than 2.5 micrometers in diameter; PM_{10}: particulate matter less than 10 micrometers in diameter; CO_2e: Carbon dioxide equivalent

This project is considered an industrial site, which the AVAQMD CEQA Guidelines require to be evaluated for potentially exposing sensitive receptors to substantial pollutant concentrations. As such, TAC emissions were calculated, and are included in Tables 6, 7 and 8. Emissions were calculated using applicable CARB Executive Orders and engine standard information for particulate matter (PM) and hydrocarbons (HC). TACs were calculated based on CARB speciation data for diesel PM and organic constituent in diesel, for noncancer 8-hour and acute hazard indices (HI), and from EPA speciation data for organics in liquefied petroleum gas (LPG) combustion for cancer, chronic, 8-hour and acute. The detailed TAC emission calculations are included in Attachment C.

Table 6. On-road Diesel Truck TAC Emissions

Pollutant	AE (lb/yr)	MHE (lb/hr)
Diesel Particulate Matter	60.19	1.16E-02
Chlorine	Not included, annual emissions from Diesel PM used to calculate cancer and chronic	5.13E-06
Copper		1.94E-06
Manganese		1.72E-06
Nickel		1.64E-06
1,3-Butadiene		3.08E-04
Methanol		4.86E-05
Formaldehyde		2.38E-02
Acetaldehyde		1.19E-02
Methyl ethyl ketone		2.39E-03
Benzene		3.24E-03
Toluene		2.39E-03
o-Xylene		5.43E-04
m-Xylene		9.90E-04
p-Xylene		1.54E-04
Styrene		9.40E-05

AE = annual emissions
MHE = maximum hourly emissions

Table 7. Off-road LPG Forklift TAC Emissions

Pollutant	AE (lb/yr)	MHE (lb/hr)
1,3-Butadiene	1.12	1.00E-04
Acetaldehyde	14.07	1.25E-03
Acrolein	15.51	1.38E-03
Formaldehyde	77.24	6.88E-03
Propylene	54.53	4.86E-03

AE = annual emissions
MHE = maximum hourly emissions

Table 8. Off-road Diesel Loader TAC Emissions

Pollutant	AE (lb/yr)	MHE (lb/hr)
Diesel Particulate Matter	0.39	1.26E-03
Chlorine	Not included, annual emissions from Diesel PM used to calculate cancer and chronic	1.46E-07
Copper		4.73E-07
Manganese		2.36E-07
Nickel		4.53E-08
1,3-Butadiene		9.08E-05
Methanol		1.43E-05
Formaldehyde		7.03E-03
Acetaldehyde		3.51E-03
Methyl ethyl ketone		7.06E-04
Benzene		9.56E-04
Toluene		7.04E-04
o-Xylene		1.60E-04
m-Xylene		2.92E-04
p-Xylene		4.54E-05
Styrene		2.77E-05

AE = annual emissions
MHE = maximum hourly emissions

Energy Analysis

The project's estimated energy consumption is summarized in Table 9. During construction, the project would consume energy in the form of fuel consumed by construction vehicles and equipment. See Table 11 for a summary of the project's construction equipment. Operational energy use will result primarily from (1) building energy demand, and (2) transportation energy demand. The operational fuel consumption shown below is based on input from Antelope Valley Engineering, Inc., indicating that the site will see 175 heavy-duty diesel trucks and 288 employee vehicles per day.

Table 9. Project Energy Consumption

Energy Type	Project Annual Energy Consumption
Electricity Consumption from Daily Operations (not including vehicles)[2]	1,804 MWh
Natural Gas Consumption from Daily Operations (not including vehicles)[2]	29,462 therms
Fuel Consumption[3]	
• Construction (Heavy-Duty Diesel Vehicle) Fuel Consumption	57,406 gallons
• Operational Automotive Fuel Consumption, including heavy-duty truck trips and employee trips (diesel, gasoline, natural gas)	88,997 gallons
• Operational Automotive Energy Consumption (Electric and Plug-in Hybrid vehicles)	6,201 kWh

Emissions Calculation Methodology

CalEEMod Emissions

Construction and operational emissions were based on five CalEEMod land use types: *Manufacturing, Parking Lot, Other Asphalt Surfaces, Other Non-Asphalt Surfaces,* and *City Park*. A discussion on the land use types that were used for the emissions modeling is included below.

CalEEMod Land Use Type: Manufacturing

The *Manufacturing* land use type was selected as the best option to model the emissions associated with the concrete bagging and pavers manufacturing plant. The area of 164,040 square feet, which includes the manufacturing area and office space, was provided by Antelope Valley Engineering, Inc.

CalEEMod Land Use Type: Parking Lot

The *Parking Lot* land use type was used to model the emissions associated with the project's parking lot. Based on the preliminary site plan, 152 parking spaces are required based on the square footage of the building. The proposed project will include 162 parking spaces. The parking lot acreage of 1.20 acres was provided by Antelope Valley Engineering, Inc.

CalEEMod Land Use Type: Other Non-Asphalt Surfaces

The *Other Non-Asphalt Surfaces* land use type was used to model the emissions associated with the project's concrete and herringbone area. The acreage of 20.18 acres for this land use type was provided by Antelope Valley Engineering, Inc.

CalEEMod Land Use Type: Other Asphalt Surfaces

The *Other Asphalt Surfaces* land use type was used to model the emissions associated with the project's paved area that will not be dedicated to the parking lot or the concrete area. The acreage of 1.45 acres for this land use type was provided by Antelope Valley Engineering, Inc.

[2] As modeled in CalEEMod Version 2020.4.0; refer to Attachment B.

[3] Project fuel consumption was calculated based on CalEEMod results; refer to Attachment F.

CalEEMod Land Use Type: City Park

The *City Park* land use type was used to model the emissions associated with the project's landscaped area and open land. The acreage of 4.40 acres for this land use type was provided by Antelope Valley Engineering, Inc.

Construction Emissions

Construction emissions were calculated using CalEEMod defaults and input provided by Antelope Valley Engineering, Inc. Table 10 provides the anticipated construction schedule. The start date, number of days per week of operation, and phase durations were provided by Antelope Valley Engineering, Inc.[4]

Table 11 provides the anticipated number of construction equipment that will be used during each phase, the hours per day the equipment will be operated, and the horsepower of the equipment, based on CalEEMod default values and input on Antelope Valley Engineering, Inc.

Based on input from Antelope Valley Engineering, Inc., this project will require 375 cubic yards of material export during the *Site Preparation* phase and 23,000 cubic yards of material import during the *Grading* phase; as such, the emissions for material haul trips were included in the construction emissions. For fugitive dust emissions, CalEEMod defaults do not include any control of fugitive dust from project construction sites. AVAQMD Rule 403 requires that fugitive dust from any "active operation, open storage pile or disturbed surface area" be controlled so that the presence of dust is not visible in the atmosphere beyond the property line. To meet this requirement, the standard operation is watering active sites three times per day. Although the addition of watering for dust control is listed as a mitigation measure in CalEEMod, within the AVAQMD this is a requirement, and is therefore included.

For architectural coating operations, VOC emissions were calculated based on the assumption that the coatings would be compliant with the VOC content limits of AVAQMD Rule 1113.[5]

Table 10. Construction Schedule

Construction Phase	Start Date	End Date	Days/week	Total Days
Demolition	N/A	N/A	N/A	N/A
Site Preparation	2/13/2023	2/25/2023	6	12
Grading	2/26/2023	4/8/2023	6	36
Building Construction	4/9/2023	12/16/2023	6	216
Paving	12/17/2023	1/27/2024	6	36
Architectural Coating	1/28/2024	2/20/2024	6	20

[4] The original estimated end date of construction (1/4/2024) was adjusted based on the phase durations provided by Antelope Valley Engineering, Inc. The new estimated end date of construction (2/20/2024) was confirmed with Antelope Valley Engineering, Inc. via phone call on 2/14/2022.
[5] For building coatings, assumed to be 90% flat paints (50 g/L) and 10% non-flat paints (100 g/L). For the parking lot coatings, assumed to be compliant with the Traffic Marking Coating category (100 g/L). VOC limits based on AVAQMD Rule 1113.

Table 11. Construction Equipment

Construction Phase	Equipment	Number of Equipment	Hours per day	Horsepower
Site Preparation	Rubber Tired Dozers	2	8	247
	Tractors/Loaders/Backhoes	2	8	97
Grading	Excavators	2	8	158
	Graders	1	8	187
	Rubber Tired Dozers	1	8	247
	Scrapers	3	8	367
	Tractors/Loaders/Backhoes	3	8	97
Building Construction	Cranes	2	7	231
	Forklifts	3	8	89
	Generator Sets	2	8	84
	Tractors/Loaders/Backhoes	3	7	97
	Welders	2	8	46
Paving	Pavers	2	8	130
	Paving Equipment	2	8	132
	Rollers	2	8	80
Architectural Coating	Air Compressors	2	6	78

Operational Emissions

Operational emissions consist of multiple sources of emissions. These include area sources (e.g., re-applying architectural coatings, landscaping equipment), energy (i.e., electricity and natural gas use), mobile sources (e.g., workers commuting, shipping, and receiving vehicles), off-road vehicle sources (e.g., forklifts, loader), stationary sources (e.g., fire pumps and process boilers), waste, and water. Except for the emissions associated with waste, and water, all other source categories were adjusted to estimate the emissions of the proposed project more accurately. A discussion into the adjusted source categories is included below.

Operational Emissions Category: Area

For architectural coating operations (i.e., re-applying coatings), VOC emissions were calculated based on the assumption that coatings would be compliant with the VOC content limits of AVAQMD Rule 1113.[6]

Operational Emissions Category: Mobile

Based on input from Antelope Valley Engineering, Inc., the project is expected to have 175 heavy-duty diesel trucks going through the facility every day of operation.[7] CalEEMod default emission factors for

[6] For building coatings, assumed to be 90% flat paints (50 g/L) and 10% non-flat paints (100 g/L). For the parking lot coatings, assumed to be compliant with the Traffic Marking Coating category (100 g/L). VOC limits based on AVAQMD Rule 1113.
[7] Based on input from Antelope Valley Engineering, the facility is expected to be operational six days per week.

Heavy-Heavy Duty (HHD) vehicles were used and the fleet mix was updated to reflect that 100% of the vehicles will be HHD.[8]

In addition, the project is expected to have 288 employee vehicle trips every day of operation. CalEEMod default emission factors for Light-Duty Auto (LDA), Light-Duty Truck Class 1 (LDT1), and Light-Duty Truck Class 2 (LDT2) were used and the fleet mix was updated to reflect a 50/25/25 percent split for LDA, LDT1, and LDT2, respectively.[9]

Operational Emissions Category: Offroad Equipment

Based on input from Antelope Valley Engineering, Inc., ten liquefied petroleum gas (LPG) – Propane forklifts and one diesel-fueled loader, will be used around the manufacturing plant. The equipment information is provided in Table 12. Since LPG is not a fuel option for the forklifts in CalEEMod, compressed natural gas (CNG) was used as the closest estimate.

Table 12. Operational Off-Road Equipment

Equipment	Number of Equipment	Fuel Type	Make	Model	Model Year	Horsepower
Forklift	10	LPG	Toyota	7FGU25	2023	53
Loader	1	Diesel	Komatsu	W250-5	2023	153

Operational Emissions Category: Stationary Sources

Based on input from Antelope Valley Engineering, Inc., two natural gas boilers rated 2 million British thermal units (MMBTU) per hour will be used at the facility.[10] The maximum daily heat input for both boilers is expected to be 34.22 MMBTU and the maximum annual heat input is expected to be 2,074 MMBTU.[11] In addition, the facility is expected to have one 100 horsepower electric fire pump that will be operated four hours per year. Since this unit is electric, the emission factors were set to zero in CalEEMod.

HARP 2 Emissions

The emissions used in HARP 2 were based on the three largest sources of operational emissions at the proposed project. The sources included on-road heavy duty diesel trucks, on-site operation of LPG forklifts, and on-site operation of a diesel loader. All other emissions were considered negligible.

On-road Heavy Duty Diesel Truck TAC Emissions

[8] In CalEEMod, this was modelled under the "Other Non Asphalt Surfaces" land use type.
[9] In CalEEMod, this was modelled under the "Manufacturing" land use type. CalEEMod User Guide Section 4.3.5 states that the vehicle class descriptor LDA, LDT1, LDT2 (which are reflective of standard employee vehicles) means that there is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively.
[10] The heat rating of the boilers is unknown at this time, 2 MMBTU/hr was used as an estimate. The estimated heat rating of the boilers was confirmed with Antelope Valley Engineering, Inc. via phone call on 2/11/2022.
[11] Heat input was calculated from the provided values of a maximum of 330 hundred-cubic feet (CCF) per day (provided via phone call by Antelope Valley Engineering, Inc. on 2/11/2022) and 20,000 CCF per day (provided via email by Antelope Valley Engineering, Inc. on 2/9/2022).

The proposed project team has estimated a total of 175 daily trucks trips to the facility for both delivering raw materials and exporting finished products of the paver and bagging plant operations. The expected trucks to be used are 2023 Freightliner Cascadia Trucks, equipped with engines that meet the newest model year 2010 on-road emission standards. The facility operation was estimated as 16 hours per day, 6 days per week, and 52 weeks per year. Each truck trip was assumed to be 15 minutes, which is a conservative estimate for the truck to arrive on the facility and shut down, then start-up and leave after unloading of raw product or loading of finished product. Since the 400-brake horsepower (bhp) trucks are not expected to operate at 100% load while on-site, a conservative estimate of 200 bhp was used to calculate diesel PM and nonmethane HC emissions. CARB speciation profile data were used to calculate TAC emissions required to properly estimate noncancer chronic 8-hour and acute HI. Attachment C1 contains detailed emission calculations and assumptions.

Off-road LPG Forklift TAC Emissions

The proposed project team has estimated a total of 10 forklifts operating daily at the facility. The expected forklifts to be used are 2023 Toyota Model 7FGU25, equipped with engines meeting the newest model year 2010, non-road large spark-ignition emission standards. The facility operation was estimated as 16 hours per day, 6 days per week, and 52 weeks per year. Each forklift was assumed to operate 90% of the 16-hour operating day, approximately 14.4 hours.[12] It was assumed that the forklifts operate at 100% load while on-site; this is a very conservative estimate. EPA speciation profile data were used to calculate TAC emissions required to properly estimate cancer, noncancer chronic, chronic 8-hour and acute HI risks. Attachment C2 contains detailed emission calculations and assumptions.

Off-road Diesel Loader TAC Emissions

The proposed project team has estimated a total of one loader operating daily at the facility. The expected loader to be used is a 2023 Komatsu W250-5, equipped with an engine that meets the newest Tier 4 final non-road compression-ignition emission standards. The facility operation was estimated as 16-hours per day, 6 days per week, and 52 weeks per year. The loader was assumed to operate 15 minutes per hour over the 16-hour operating day, for a total of 4 hours per day.[13] It was assumed that the loader would operate at 100% load while on-site; this is a very conservative estimate. CARB speciation profile data were used to calculate TAC emissions required to properly estimate noncancer chronic, 8-hour, and acute HI risks. Attachment C3 contains detailed emission calculations and assumptions.

Air Dispersion Modeling and Health Risk Assessment

CARB's HARP2 Air Dispersion and Risk Tool (ADMRT) was used to complete the air dispersion analysis for the proposed project. ADRMT is integrated with EPA's AERMOD for the dispersion analysis portion. Attachment D contains the AERMOD output files. The health risk analysis portion was completed with the

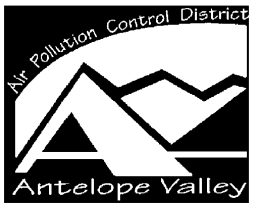
[12] Estimated operational time of the equipment was confirmed by Antelope Valley Engineering, Inc. via email on 2/2/2022.
[13] Estimated operational time of the equipment was confirmed by Antelope Valley Engineering, Inc. via email on 2/2/2022.

built-in tool found in ADMRT. The Office of Environmental Health Hazard Assessment (OEHHA) Derived Method was used to calculate the 30-year cancer risk, noncancer chronic, 8-hour, and acute HI to residences near the proposed project. Attachment E contains the risk analysis output summary, and cancer risk, noncancer chronic, 8-hour chronic, and acute HI summed by receptor.

Findings

The estimated emissions of criteria pollutants and GHG for each year of construction and the total operational emissions **are below the applicable AVAQMD Significant Emissions Thresholds**; therefore, this project does not have a significant air quality impact on the environment. In addition, this project is not expected to expose sensitive receptors to TAC concentrations above significance thresholds. Since the construction and operational emissions are below the significance thresholds, emissions mitigation measures are not required.

ATTACHMENT A – Antelope Valley AQMD California Environmental Quality Act (CEQA) and Federal Conformity Guidelines



Antelope Valley AQMD

California Environmental Quality Act (CEQA)

and

Federal Conformity

Guidelines

August 2016

AVAQMD Planning, Rule-making and Grants Section
AVAQMD Air Monitoring Section

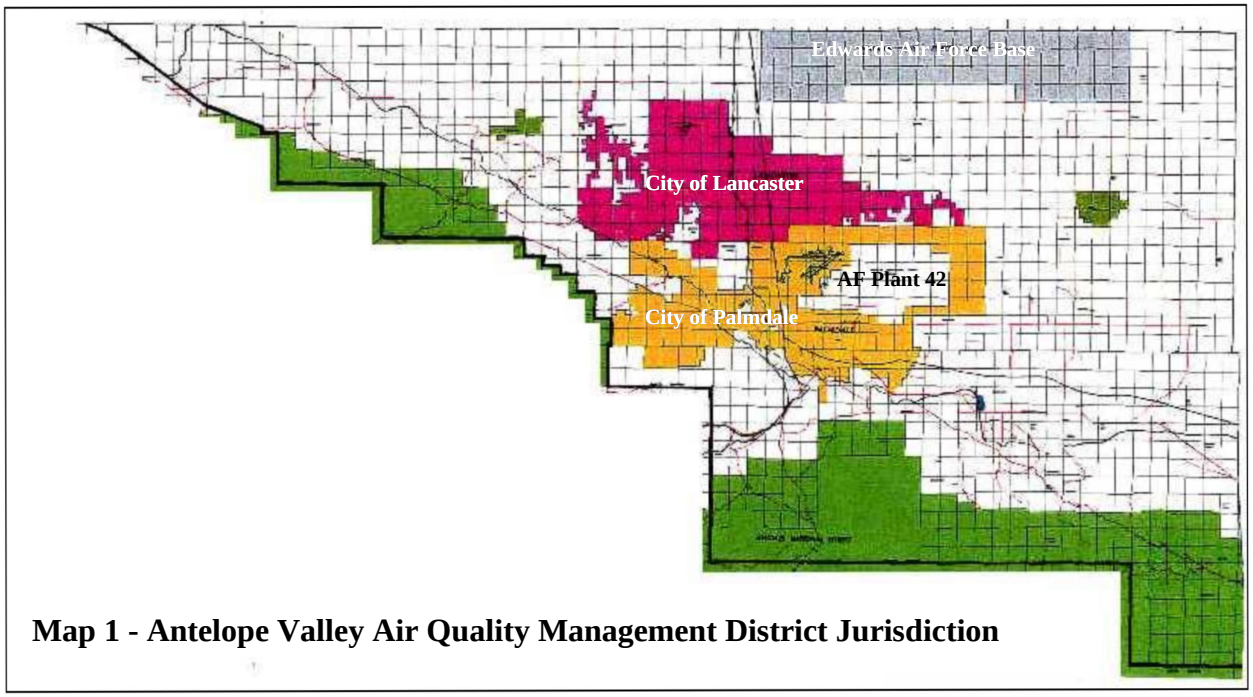
Table of Contents

Background

Under the California Environmental Quality Act (CEQA), the AVAQMD (District) is an expert commenting agency on air quality and related matters within its jurisdiction (or impacting on its jurisdiction). The District has dedicated resources to reviewing projects to ensure that they will not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan. The District has adopted a federal attainment plan for ozone pursuant to the Federal Clean Air Act.

Purpose

These Guidelines are intended to assist persons preparing environmental analysis or review documents for any project within the jurisdiction of the District by providing background information and guidance on the preferred analysis approach.



Map 1 - Antelope Valley Air Quality Management District Jurisdiction

Jurisdiction

The District has jurisdiction over the northern, desert portion of Los Angeles County (please refer to Map 1). This region includes the incorporated cities of Lancaster and Palmdale, Air Force Plant 42, and the southern portion of Edwards Air Force Base. The Kern County-Los Angeles County boundary forms the northern boundary of the District; the San Bernardino-Los Angeles County boundary forms the eastern boundary of the District.

Non-attainment Designations and Classification Status

The United States Environmental Protection Agency and the California Air Resources Board have designated portions of the District non-attainment for a variety of pollutants, and some of those designations have an associated classification. Please refer to Table 1 for a chart of these designations and classifications.

Table 1 – AVAQMD Designations and Classifications

Ambient Air Quality Standard	**AVAQMD**
One-hour Ozone (Federal) – standard has been revoked, this is historical information only	Proposed attainment in 2014; historical classification Severe-17
Eight-hour Ozone (Federal 84 ppb (1997))	Subpart 2 Nonattainment; classified Severe-15
Eight-hour Ozone (Federal 75 ppb (2008))	Nonattainment, classified Severe-15
Eight-hour Ozone (Federal 70 ppb (2015))	Expected nonattainment; classification to be determined
Ozone (State)	Nonattainment; classified Extreme
PM_{10} 24-hour (Federal)	Unclassifiable/attainment
$PM_{2.5}$ Annual (Federal)	Unclassified/attainment
$PM_{2.5}$ 24-hour (Federal)	Unclassified/attainment
$PM_{2.5}$ (State)	Unclassified
PM_{10} (State)	Nonattainment
Carbon Monoxide (State and Federal)	Attainment
Nitrogen Dioxide (State and Federal)	Attainment/unclassified
Sulfur Dioxide (State and Federal)	Attainment/unclassified
Lead (State and Federal)	Attainment
Particulate Sulfate (State)	Unclassified
Hydrogen Sulfide (State)	Unclassified
Visibility Reducing Particles (State)	Unclassified

Attainment Plans

The District has adopted a single attainment plan for ozone. Please refer to Table 2 for information regarding this attainment plan.

Table 2 – AVAQMD Attainment Plans

Name of Plan	Date of Adoption	Standard(s) Targeted	Applicable Area	Pollutant(s) Targeted	Attainment Date*
AVAQMD 2004 Ozone Attainment Plan (State and Federal)	4/2004	Federal one hour ozone	Entire District	NO_x and VOC	2007
AVAQMD Federal 8-Hour Ozone Attainment Plan	5/20/2008	Federal eight hour ozone (84 ppb)	Entire District	NO_x and VOC	2019 (revised from 2021)

*Note: A historical attainment date given in an attainment plan does not necessarily mean that the affected area has been re-designated to attainment; please refer to Table 1.

Rules and Regulations

The District maintains a set of Rules and Regulations to improve air quality and maintain good air quality. Please contact the District to obtain a copy of the District rulebook, or visit www.avaqmd.ca.gov.

Recommended Environmental Setting Elements

Air Quality Data

The District gathers a variety of air quality data at the Lancaster monitoring site. Table 3 details the data available from the District for this site.

Table 3 - Available Air Quality Data

Site	Address	Pollutants	Dates
Lancaster	W. Ponderosa	O_3, NO_x, CO, PM_{10} (Hi-Vol and TEOM)	7/1/97 to 11/01
Lancaster	W. Ponderosa	$PM_{2.5}$	1/1/99 to 11/01
Lancaster	43301 Division St.	O_3, NO_x, CO, PM_{10} (hourly), $PM_{2.5}$	11/01 to present

Meteorological Data

A variety of meteorological data is available from the District for the Lancaster site. Table 4 contains a list of the data available for the Lancaster site.

Table 4 - Available Meteorological Data

Site	Address	Data	Dates
Lancaster	W. Ponderosa	Wind speed/direction, pressure, temperature, humidity	7/1/97 to 11/01
Lancaster	43301 Division St.	Wind speed/direction, pressure, temperature, humidity	11/01 to present

Topography and Climate Discussion

The District covers a western portion of the Mojave Desert Air Basin (MDAB). The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains which dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada mountains to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevadas in the north by the Tehachapi Pass (3,800 ft elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 ft).

During the summer the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time the reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. MDAB annual average precipitation is presented in Table 5; the data displayed is 1981-2010 averages from the NOAA National Climate Data Center. The MDAB is classified as a dry-hot desert climate (BWh), with portions classified as dry-very hot desert (BWhh), to indicate at least three months have maximum average temperatures over 100.4° F.

Table 5 - MDAB Average Annual Precipitation

Site	County	District	Precipitation (inches)
Baker	San Bernardino	MDAQMD	4.48
Barstow Daggett Airport	San Bernardino	MDAQMD	4.06
Barstow	San Bernardino	MDAQMD	5.30
Blythe Airport	Riverside	MDAQMD	3.77
Desert Center 2 NNE	Riverside	SCAQMD	3.92
Eagle Mountain	Riverside	SCAQMD	4.10
Goldstone Echo Number 2	San Bernardino	MDAQMD	5.88
Joshua Tree	San Bernardino	MDAQMD	5.11
Lancaster Wm J Fox Field	Los Angeles	AVAQMD	7.38
Mitchell Caverns	San Bernardino	MDAQMD	11.50
Mojave	Kern	EKAPCD	6.67
Mountain Pass 1 SE	San Bernardino	MDAQMD	9.94
Needles Airport	San Bernardino	MDAQMD	4.62
Palmdale Airport	Los Angeles	AVAQMD	8.30
Palmdale	Los Angeles	AVAQMD	7.40

Site	County	District	Precipitation (inches)
Parker Reservoir	San Bernardino	MDAQMD	6.16
Pearblossom	Los Angeles	AVAQMD	6.73
Randsburg	Kern	EKAPCD	7.26
Trona	San Bernardino	MDAQMD	3.88
Twentynine Palms	San Bernardino	MDAQMD	4.46
Victorville Pump Plant	San Bernardino	MDAQMD	6.15
Wrightwood	Los Angeles	AVAQMD	22.61

Recommended Impacts Discussion Elements

Direct Impacts

Direct impacts are the result of the project itself (from its construction and operation), in the form of project activity and trips generated by the project. For example, in the case of a subdivision project, construction emissions (equipment exhaust, wind erosion, vehicle exhaust), housing use activity (natural gas consumption) and trips to and from the housing (vehicle exhaust, tire wear) represent direct impacts. In the case of a new mine project, construction emissions (equipment exhaust, wind erosion, vehicle exhaust), material handling (drilling, blasting, transfers, crushing, screening, bagging), operational emissions (wind erosion, vehicle travel, vehicle exhaust, tire wear), and employee/customer/delivery travel (vehicle exhaust, tire wear) represent direct impacts.

Indirect Impacts

Indirect impacts are the result of changes that would not occur without the project. In the case of a subdivision project, indirect impacts on the surrounding community can be generated in many ways: nearby construction of roadways (or roadway modifications) and other infrastructure to support the subdivision, construction and operation of new commercial/retail establishments, changes in traffic/circulation patterns that result in increased congestion/delays, etc. In the case of a new mine project, indirect impacts can be generated by nearby construction of infrastructure to support the mine, housing constructed and/or occupied by mine employees, changes in traffic/circulation patterns that result in increased congestion/delays, etc.

Cumulative Impacts

Cumulative impacts are similar to direct and indirect impacts of the project, which the project contributes to. In the case of a subdivision project, a given project has a cumulative impact with all other subdivision projects, from the standpoint of each type of impact (cumulative construction emissions, residential natural gas consumption, solvent use, transportation emissions, congestion, etc.). Similarly, a new mine project has a cumulative impact with all other mining projects, from the standpoint of each type of impact (cumulative construction emissions, diesel equipment emissions, blasting emissions, fugitive emissions, transportation, congestion, etc.).

Conformity Impacts

A project is non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable District rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast. An example of a non-conforming project would be one that increases the gross number of dwelling units, increases the number of trips, and/or increases the overall vehicle miles traveled in an affected area (relative to the applicable land use plan).

Sensitive Receptor Land Uses

Residences, schools, daycare centers, playgrounds and medical facilities are considered sensitive receptor land uses. The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated using significance threshold criteria number 4 (refer to the significance threshold discussion):

- Any industrial project within 1000 feet;
- A distribution center (40 or more trucks per day) within 1000 feet;
- A major transportation project (50,000 or more vehicles per day) within 1000 feet;
- A dry cleaner using perchloroethylene within 500 feet;
- A gasoline dispensing facility within 300 feet.

Recommended Substantiation Discussion Elements

For projects applying the emissions-based significance thresholds, project emissions quantification is required. In addition the environmental documentation must include support for the quantification methodology used, including emission factors, emission factors source, assumptions, and sample calculations where necessary. For projects using a calculation tool such as CalEEMod or URBEMIS, the support section must specify the inputs and settings used for the evaluation.

Significance Thresholds

Any project is significant if it triggers or exceeds the most appropriate evaluation criteria. The District will clarify upon request which threshold is most appropriate for a given project; in general, the emissions comparison (criteria number 1) is sufficient:

1. Generates total emissions (direct and indirect) in excess of the thresholds given in Table 6;
2. Generates a violation of any ambient air quality standard when added to the local background;
3. Does not conform with the applicable attainment or maintenance plan(s) [1];

[1] A project is deemed to not exceed this threshold, and hence not be significant, if it is consistent with the existing land use plan. Zoning changes, specific plans, general plan amendments and similar land use plan changes which do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled are also deemed to not exceed this threshold.

4. Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1.*

**Refer to the Sensitive Receptor Land Use discussion above*

A significant project must incorporate mitigation sufficient to reduce its impact to a level that is not significant. A project that cannot be mitigated to a level that is not significant must incorporate all feasible mitigation. Note that the emission thresholds are given as a daily value and an annual value, so that a multi-phased project (such as a project with a construction phase and a separate operational phase) with phases shorter than one year can be compared to the daily value.

Table 6 – Significant Emissions Thresholds

Criteria Pollutant	Annual Threshold (tons)	Daily Threshold (pounds)
Greenhouse Gases (CO2e)	100,000	548,000
Carbon Monoxide (CO)	100	548
Oxides of Nitrogen (NO_x)	25	137
Volatile Organic Compounds (VOC)	25	137
Oxides of Sulfur (SO_x)	25	137
Particulate Matter (PM_{10})	15	82
Particulate Matter ($PM_{2.5}$)	12	65
Hydrogen Sulfide (H_2S)	10	54
Lead (Pb)	0.6	3

District Contacts

If an address is not listed, please use the general address, to the attention of the listed individual.

AVAQMD General and Rulebook	Crystal Goree (661) 723-8070 x1 Mailing and Physical Address: 43301 Division St., Suite 206 Lancaster, CA 93535-4649
Planning and Rules	Tracy Walters (760) 245-1661 x6122
Air Quality and Meteorological Data	Orlando Salinas (760) 245-1661 x1810
CEQA and Conformity	Alan De Salvio (760) 245-1661 x6726
Permitting	Bret Banks (661) 723-8070 x2

Appendix A – Basic Definitions of Major Air Pollutants

Technical and/or legal definitions exist for many of these pollutants, depending on context. The following definitions are for general, introductory purposes only:

Carbon Dioxide (CO_2) – Common product of combustion. Not a criteria pollutant, but considered an important "greenhouse gas." Important on a national or global scale.

Carbon Monoxide (CO) – Common product of incomplete combustion. A criteria pollutant with state and federal standards. Not a primary photochemical reaction compound, but involved in photochemical reactions. Dissipates rapidly, and is therefore only important on a local scale near sources.

Criteria Pollutants – Those air pollutants specifically identified for control under the Federal Clean Air Act (currently six: carbon monoxide, nitrogen oxides, lead, sulfur oxides, ozone and particulates).

Lead (Pb) – A heavy metal, present in the environment mainly due to historical use in motor vehicle fuel. Primarily associated with lead smelting operations. A criteria pollutant with state and federal standards. Primarily of concern near sources.

Oxides of Nitrogen (NO_x) – Common product of combustion in the presence of nitrogen. Includes NO_2, which is a criteria pollutant with state and federal standards. Locally and regionally important due to its involvement in the photochemical formation of ozone.

Oxides of Sulfur (SO_x) – Common product of combustion in the presence of sulfur. Associated primarily with diesel and coal burning. Includes SO_2, a criteria pollutant with state and federal standards. Primarily of concern near sources.

Ozone (O_3) – A gas mainly produced by a photochemical reaction between reactive organic gases and oxides of nitrogen in the presence of sunlight (also produced by molecular oxygen in the presence of ultraviolet light or electrical discharge). A strong oxidant that is damaging at ground level but necessary at high altitude (in the stratosphere, where it absorbs dangerous ultraviolet light). Also considered an important greenhouse gas. A criteria pollutant with state and federal standards.

Particulate Matter (TSP or PM_{30}) – Solid or liquid matter suspended in the atmosphere, excluding water. Includes aerosols and droplets that form in the atmosphere. Locally and regionally important.

Reactive/Volatile Organic Compounds/Gases (ROG, VOC, NMOG, NMOC) – A portion of total organic compounds or gases, excludes methane, ethane and acetone (due to low photochemical reactivity). "ROG" is generally used by the California Air Resources Board, "VOC" is generally used by the United States Environmental Protection Agency, but all four terms are interchangeable for most uses. Regionally important due to its involvement in the photochemical reaction that produces ozone.

Respirable Particulate Matter (coarse or PM_{10}, and fine or $PM_{2.5}$) – That portion of particulate matter that tends to penetrate into the human lung. The subscript refers to aerodynamic diameter. Criteria pollutants with state and federal standards. Locally and regionally important.

Total Organic Compounds/Gases (TOC or TOG) – Compounds containing at least one atom of carbon, except carbon monoxide, carbon dioxide, carbonic acid, metallic carbides and metallic carbonates. Primarily methane in the atmosphere, a "greenhouse gas."

ATTACHMENT B – CalEEMod Emissions Model Output

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA

Antelope Valley APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	164.04	1000sqft	3.77	164,040.00	0
Other Asphalt Surfaces	1.45	Acre	1.45	63,162.00	0
Other Non-Asphalt Surfaces	20.18	Acre	20.18	879,040.80	0
Parking Lot	162.00	Space	1.20	64,800.00	0
City Park	4.40	Acre	4.40	191,664.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Information provided by client.

Construction Phase - Start date, days per week, and total days for each phase provided by client on data request form.

Off-road Equipment - Number of equipment provided by client on data request form.

Off-road Equipment - Number of equipment provided by client on data request form.

Off-road Equipment - Number of equipment provided by client on data request form.

Off-road Equipment -

Off-road Equipment - Number of equipment provided by client on data request form.

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading - Material import/export provided by client on data request form.

Architectural Coating - VOC limits from AVAQMD Rule 1113. For the building, assumes 90% flat paint (50 g/L) and 10% non-flat (100 g/L). For parking lot coatings, assumed to be compliant with the Traffic Marking Coating category VOC limit of 100 g/L.

Vehicle Trips - All areas modeled as a City Park are within the site and no vehicle trips are expected. Manufacturing land use will see 288 employees per day. Other Non-Asphalt Surfaces land use will see 175 HHD trucks per day to account for estimated on-road equipment. The estimated operational schedule is 6 days/week, so trip rates were included for weekdays and Saturdays.

Area Coating - VOC limits from AVAQMD Rule 1113. For the building, assumes 90% flat paint (50 g/L) and 10% non-flat (100 g/L). For parking lot coatings, assumed to be compliant with the Traffic Marking Coating category VOC limit of 100 g/L.

Construction Off-road Equipment Mitigation - Assumes that construction site will be watered 3 times per day to be in compliance with AVAQMD Rule 403.

Area Mitigation - -

Operational Off-Road Equipment - Equipment information and operational details confirmed by client on data request form.

Fleet Mix - Other Non-Asphalt Surfaces land use will see 175 HHD trucks per day. Manufacturing land use will see 288 vehicles per day with 50% of vehicles LDA, 25% LDT1, and 25% LDT2.

Stationary Sources - Emergency Generators and Fire Pumps - Fire pump is expected to be electric. Estimated 15 minutes per month provided by client on data request form (assumed done in one day). Four hours per year provided by client on data request form.

Stationary Sources - Process Boilers - Boiler information confirmed with client.

Stationary Sources - Emergency Generators and Fire Pumps EF - Fire pump is expected to be electric.

Table Name	Column Name	Default Value	New Value
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tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	55.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	55.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	55.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	55
tblAreaCoating	Area_EF_Nonresidential_Interior	250	55
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	55
tblAreaCoating	Area_EF_Residential_Interior	250	55
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	45.00	36.00
tblConstructionPhase	NumDays	500.00	216.00

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	35.00	36.00
tblConstructionPhase	NumDays	35.00	20.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
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tblFleetMix	HHD	9.1440e-003	1.00
tblFleetMix	LDA	0.59	0.50
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDT1	0.05	0.25
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.14	0.25
tblFleetMix	LDT2	0.14	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.3230e-003	0.00
tblFleetMix	LHD2	7.3230e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	6.5310e-003	0.00
tblFleetMix	MH	6.5310e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	6.7800e-004	0.00
tblFleetMix	OBUS	6.7800e-004	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFleetMix	SBUS	2.5010e-003	0.00
tblFleetMix	SBUS	2.5010e-003	0.00
tblFleetMix	UBUS	4.9500e-004	0.00
tblFleetMix	UBUS	4.9500e-004	0.00
tblGrading	MaterialExported	0.00	375.00
tblGrading	MaterialImported	0.00	23,000.00
tblLandUse	LotAcreage	1.46	1.20
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperHorsePower	89.00	53.00
tblOperationalOffRoadEquipment	OperHorsePower	203.00	153.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	14.40
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	10.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	2,074.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	2.00
tblStationaryBoilersUse	DailyHeatInput	0.00	34.22
tblStationaryBoilersUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblStationaryGeneratorsPumpsEF	CO_EF	3.70	0.00
tblStationaryGeneratorsPumpsEF	CO2_EF	1.15	0.00
tblStationaryGeneratorsPumpsEF	NOX_EF	2.85	0.00
tblStationaryGeneratorsPumpsEF	PM10_EF	0.22	0.00
tblStationaryGeneratorsPumpsEF	PM2_5_EF	0.22	0.00
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	0.00
tblStationaryGeneratorsPumpsEF	SO2_EF	4.9000e-003	0.00
tblStationaryGeneratorsPumpsEF	TOG_EF	2.4700e-003	0.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	100.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	4.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	0.00	100.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	6.42	1.76
tblVehicleTrips	ST_TR	0.00	8.67
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	0.78	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	WD_TR	3.93	1.76
tblVehicleTrips	WD_TR	0.00	8.67

2.0 Emissions Summary

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.5832	4.6428	5.6913	0.0161	0.9527	0.1597	1.1124	0.2951	0.1503	0.4454	0.0000	1,461.4430	1,461.4430	0.1472	0.0896	1,491.8112
2024	0.5798	0.1417	0.2491	4.3000e-004	0.0106	6.9000e-003	0.0175	2.8200e-003	6.4500e-003	9.2700e-003	0.0000	37.6284	37.6284	8.3500e-003	2.7000e-004	37.9165
Maximum	**0.5832**	**4.6428**	**5.6913**	**0.0161**	**0.9527**	**0.1597**	**1.1124**	**0.2951**	**0.1503**	**0.4454**	**0.0000**	**1,461.4430**	**1,461.4430**	**0.1472**	**0.0896**	**1,491.8112**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.5832	4.6428	5.6913	0.0161	0.7912	0.1597	0.9509	0.2290	0.1503	0.3792	0.0000	1,461.4424	1,461.4424	0.1472	0.0896	1,491.8106
2024	0.5798	0.1417	0.2491	4.3000e-004	0.0106	6.9000e-003	0.0175	2.8200e-003	6.4500e-003	9.2700e-003	0.0000	37.6284	37.6284	8.3500e-003	2.7000e-004	37.9165
Maximum	**0.5832**	**4.6428**	**5.6913**	**0.0161**	**0.7912**	**0.1597**	**0.9509**	**0.2290**	**0.1503**	**0.3792**	**0.0000**	**1,461.4424**	**1,461.4424**	**0.1472**	**0.0896**	**1,491.8106**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**16.76**	**0.00**	**14.29**	**22.20**	**0.00**	**14.55**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**2-13-2023**	**5-12-2023**	1.6978	1.6978
2	**5-13-2023**	**8-12-2023**	1.4430	1.4430
3	**8-13-2023**	**11-12-2023**	1.4492	1.4492
4	**11-13-2023**	**2-12-2024**	1.1430	1.1430
5	**2-13-2024**	**5-12-2024**	0.2030	0.2030
		Highest	1.6978	1.6978

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7637	3.0000e-005	3.2300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.2900e-003	6.2900e-003	2.0000e-005	0.0000	6.7000e-003
Energy	0.0159	0.1444	0.1213	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	477.1770	477.1770	0.0300	6.1600e-003	479.7619
Mobile	0.1263	1.6654	1.6718	8.3000e-003	0.4402	9.4500e-003	0.4496	0.1184	8.9800e-003	0.1274	0.0000	787.7601	787.7601	0.0131	0.0975	817.1429
Offroad	0.0410	1.2348	15.6739	2.9200e-003		0.0241	0.0241		0.0235	0.0235	0.0000	325.6632	325.6632	0.1053	0.0000	328.2964
Stationary	0.0112	0.0228	0.1993	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.3569	221.3569	4.2400e-003	0.0000	221.4629
Waste						0.0000	0.0000		0.0000	0.0000	41.3675	0.0000	41.3675	2.4448	0.0000	102.4863
Water						0.0000	0.0000		0.0000	0.0000	12.0348	97.9278	109.9626	1.2444	0.0302	150.0676
Total	**0.9580**	**3.0674**	**17.6695**	**0.0133**	**0.4402**	**0.0600**	**0.5001**	**0.1184**	**0.0589**	**0.1773**	**53.4023**	**1,909.8912**	**1,963.2935**	**3.8418**	**0.1339**	**2,099.2246**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7637	3.0000e-005	3.2300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.2900e-003	6.2900e-003	2.0000e-005	0.0000	6.7000e-003
Energy	0.0159	0.1444	0.1213	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	477.1770	477.1770	0.0300	6.1600e-003	479.7619
Mobile	0.1263	1.6654	1.6718	8.3000e-003	0.4402	9.4500e-003	0.4496	0.1184	8.9800e-003	0.1274	0.0000	787.7601	787.7601	0.0131	0.0975	817.1429
Offroad	0.0410	1.2348	15.6739	2.9200e-003		0.0241	0.0241		0.0235	0.0235	0.0000	325.6632	325.6632	0.1053	0.0000	328.2964
Stationary	0.0112	0.0228	0.1993	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.3569	221.3569	4.2400e-003	0.0000	221.4629
Waste						0.0000	0.0000		0.0000	0.0000	41.3675	0.0000	41.3675	2.4448	0.0000	102.4863
Water						0.0000	0.0000		0.0000	0.0000	12.0348	97.9278	109.9626	1.2444	0.0302	150.0676
Total	**0.9580**	**3.0674**	**17.6695**	**0.0133**	**0.4402**	**0.0600**	**0.5001**	**0.1184**	**0.0589**	**0.1773**	**53.4023**	**1,909.8912**	**1,963.2935**	**3.8418**	**0.1339**	**2,099.2246**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	2/13/2023	2/25/2023	6	12	
2	Grading	Grading	2/26/2023	4/8/2023	6	36	
3	Building Construction	Building Construction	4/9/2023	12/16/2023	6	216	
4	Paving	Paving	12/17/2023	1/27/2024	6	36	
5	Architectural Coating	Architectural Coating	1/28/2024	2/20/2024	6	20	

Acres of Grading (Site Preparation Phase): 12

Acres of Grading (Grading Phase): 144

Acres of Paving: 22.83

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 246,060; Non-Residential Outdoor: 82,020; Striped Parking Area: 60,420 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	3	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	2	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	10.00	0.00	47.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	10	25.00	0.00	2,875.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	572.00	223.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	114.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0787	0.0000	0.0787	0.0404	0.0000	0.0404	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0100	0.1040	0.0641	1.4000e-004		4.7600e-003	4.7600e-003		4.3800e-003	4.3800e-003	0.0000	12.2859	12.2859	3.9700e-003	0.0000	12.3853
Total	**0.0100**	**0.1040**	**0.0641**	**1.4000e-004**	**0.0787**	**4.7600e-003**	**0.0834**	**0.0404**	**4.3800e-003**	**0.0448**	**0.0000**	**12.2859**	**12.2859**	**3.9700e-003**	**0.0000**	**12.3853**

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	2.9000e-003	7.2000e-004	1.0000e-005	4.0000e-004	2.0000e-005	4.2000e-004	1.1000e-004	2.0000e-005	1.3000e-004	0.0000	1.2632	1.2632	1.0000e-005	2.0000e-004	1.3226
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.5000e-004	1.8800e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3964	0.3964	1.0000e-005	1.0000e-005	0.4006
Total	**2.4000e-004**	**3.0500e-003**	**2.6000e-003**	**1.0000e-005**	**8.8000e-004**	**2.0000e-005**	**9.1000e-004**	**2.4000e-004**	**2.0000e-005**	**2.6000e-004**	**0.0000**	**1.6596**	**1.6596**	**2.0000e-005**	**2.1000e-004**	**1.7232**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0307	0.0000	0.0307	0.0158	0.0000	0.0158	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0100	0.1040	0.0641	1.4000e-004		4.7600e-003	4.7600e-003		4.3800e-003	4.3800e-003	0.0000	12.2859	12.2859	3.9700e-003	0.0000	12.3853
Total	**0.0100**	**0.1040**	**0.0641**	**1.4000e-004**	**0.0307**	**4.7600e-003**	**0.0354**	**0.0158**	**4.3800e-003**	**0.0201**	**0.0000**	**12.2859**	**12.2859**	**3.9700e-003**	**0.0000**	**12.3853**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	2.9000e-003	7.2000e-004	1.0000e-005	4.0000e-004	2.0000e-005	4.2000e-004	1.1000e-004	2.0000e-005	1.3000e-004	0.0000	1.2632	1.2632	1.0000e-005	2.0000e-004	1.3226
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.5000e-004	1.8800e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3964	0.3964	1.0000e-005	1.0000e-005	0.4006
Total	**2.4000e-004**	**3.0500e-003**	**2.6000e-003**	**1.0000e-005**	**8.8000e-004**	**2.0000e-005**	**9.1000e-004**	**2.4000e-004**	**2.0000e-005**	**2.6000e-004**	**0.0000**	**1.6596**	**1.6596**	**2.0000e-005**	**2.1000e-004**	**1.7232**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1861	0.0000	0.1861	0.0680	0.0000	0.0680	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0767	0.7980	0.6556	1.4500e-003		0.0329	0.0329		0.0302	0.0302	0.0000	127.0941	127.0941	0.0411	0.0000	128.1218
Total	**0.0767**	**0.7980**	**0.6556**	**1.4500e-003**	**0.1861**	**0.0329**	**0.2189**	**0.0680**	**0.0302**	**0.0983**	**0.0000**	**127.0941**	**127.0941**	**0.0411**	**0.0000**	**128.1218**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2100e-003	0.1773	0.0441	8.0000e-004	0.0247	1.0400e-003	0.0258	6.7900e-003	9.9000e-004	7.7800e-003	0.0000	77.2721	77.2721	4.8000e-004	0.0122	80.9043
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-003	1.1600e-003	0.0141	3.0000e-005	3.6200e-003	2.0000e-005	3.6500e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.9726	2.9726	1.1000e-004	1.0000e-004	3.0047
Total	**4.6100e-003**	**0.1784**	**0.0582**	**8.3000e-004**	**0.0284**	**1.0600e-003**	**0.0294**	**7.7500e-003**	**1.0100e-003**	**8.7600e-003**	**0.0000**	**80.2447**	**80.2447**	**5.9000e-004**	**0.0123**	**83.9090**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0726	0.0000	0.0726	0.0265	0.0000	0.0265	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0767	0.7980	0.6556	1.4500e-003		0.0329	0.0329		0.0302	0.0302	0.0000	127.0940	127.0940	0.0411	0.0000	128.1216
Total	**0.0767**	**0.7980**	**0.6556**	**1.4500e-003**	**0.0726**	**0.0329**	**0.1054**	**0.0265**	**0.0302**	**0.0568**	**0.0000**	**127.0940**	**127.0940**	**0.0411**	**0.0000**	**128.1216**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2100e-003	0.1773	0.0441	8.0000e-004	0.0247	1.0400e-003	0.0258	6.7900e-003	9.9000e-004	7.7800e-003	0.0000	77.2721	77.2721	4.8000e-004	0.0122	80.9043
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-003	1.1600e-003	0.0141	3.0000e-005	3.6200e-003	2.0000e-005	3.6500e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.9726	2.9726	1.1000e-004	1.0000e-004	3.0047
Total	**4.6100e-003**	**0.1784**	**0.0582**	**8.3000e-004**	**0.0284**	**1.0600e-003**	**0.0294**	**7.7500e-003**	**1.0100e-003**	**8.7600e-003**	**0.0000**	**80.2447**	**80.2447**	**5.9000e-004**	**0.0123**	**83.9090**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2636	2.3608	2.5052	4.4400e-003		0.1104	0.1104		0.1048	0.1048	0.0000	379.6264	379.6264	0.0800	0.0000	381.6251
Total	**0.2636**	**2.3608**	**2.5052**	**4.4400e-003**		**0.1104**	**0.1104**		**0.1048**	**0.1048**	**0.0000**	**379.6264**	**379.6264**	**0.0800**	**0.0000**	**381.6251**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0276	0.9785	0.3774	4.6000e-003	0.1605	4.3600e-003	0.1649	0.0463	4.1700e-003	0.0505	0.0000	439.8376	439.8376	2.5300e-003	0.0636	458.8509
Worker	0.1928	0.1587	1.9379	4.4500e-003	0.4975	3.1300e-003	0.5006	0.1322	2.8800e-003	0.1350	0.0000	408.0841	408.0841	0.0152	0.0135	412.4817
Total	**0.2204**	**1.1372**	**2.3153**	**9.0500e-003**	**0.6580**	**7.4900e-003**	**0.6655**	**0.1785**	**7.0500e-003**	**0.1855**	**0.0000**	**847.9217**	**847.9217**	**0.0177**	**0.0771**	**871.3326**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2636	2.3608	2.5052	4.4400e-003		0.1104	0.1104		0.1048	0.1048	0.0000	379.6259	379.6259	0.0800	0.0000	381.6247
Total	**0.2636**	**2.3608**	**2.5052**	**4.4400e-003**		**0.1104**	**0.1104**		**0.1048**	**0.1048**	**0.0000**	**379.6259**	**379.6259**	**0.0800**	**0.0000**	**381.6247**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0276	0.9785	0.3774	4.6000e-003	0.1605	4.3600e-003	0.1649	0.0463	4.1700e-003	0.0505	0.0000	439.8376	439.8376	2.5300e-003	0.0636	458.8509
Worker	0.1928	0.1587	1.9379	4.4500e-003	0.4975	3.1300e-003	0.5006	0.1322	2.8800e-003	0.1350	0.0000	408.0841	408.0841	0.0152	0.0135	412.4817
Total	**0.2204**	**1.1372**	**2.3153**	**9.0500e-003**	**0.6580**	**7.4900e-003**	**0.6655**	**0.1785**	**7.0500e-003**	**0.1855**	**0.0000**	**847.9217**	**847.9217**	**0.0177**	**0.0771**	**871.3326**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2000e-003	0.0612	0.0875	1.4000e-004		3.0600e-003	3.0600e-003		2.8200e-003	2.8200e-003	0.0000	12.0161	12.0161	3.8900e-003	0.0000	12.1133
Paving	1.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.3600e-003**	**0.0612**	**0.0875**	**1.4000e-004**		**3.0600e-003**	**3.0600e-003**		**2.8200e-003**	**2.8200e-003**	**0.0000**	**12.0161**	**12.0161**	**3.8900e-003**	**0.0000**	**12.1133**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.3000e-004	2.8200e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5945	0.5945	2.0000e-005	2.0000e-005	0.6009
Total	**2.8000e-004**	**2.3000e-004**	**2.8200e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5945**	**0.5945**	**2.0000e-005**	**2.0000e-005**	**0.6009**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2000e-003	0.0612	0.0875	1.4000e-004		3.0600e-003	3.0600e-003		2.8200e-003	2.8200e-003	0.0000	12.0161	12.0161	3.8900e-003	0.0000	12.1133
Paving	1.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.3600e-003**	**0.0612**	**0.0875**	**1.4000e-004**		**3.0600e-003**	**3.0600e-003**		**2.8200e-003**	**2.8200e-003**	**0.0000**	**12.0161**	**12.0161**	**3.8900e-003**	**0.0000**	**12.1133**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.3000e-004	2.8200e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5945	0.5945	2.0000e-005	2.0000e-005	0.6009
Total	**2.8000e-004**	**2.3000e-004**	**2.8200e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5945**	**0.5945**	**2.0000e-005**	**2.0000e-005**	**0.6009**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1143	0.1755	2.7000e-004		5.6200e-003	5.6200e-003		5.1700e-003	5.1700e-003	0.0000	24.0318	24.0318	7.7700e-003	0.0000	24.2262
Paving	2.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0142**	**0.1143**	**0.1755**	**2.7000e-004**		**5.6200e-003**	**5.6200e-003**		**5.1700e-003**	**5.1700e-003**	**0.0000**	**24.0318**	**24.0318**	**7.7700e-003**	**0.0000**	**24.2262**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	4.1000e-004	5.0900e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	3.9000e-004	0.0000	1.1577	1.1577	4.0000e-005	4.0000e-005	1.1696
Total	**5.2000e-004**	**4.1000e-004**	**5.0900e-003**	**1.0000e-005**	**1.4500e-003**	**1.0000e-005**	**1.4600e-003**	**3.9000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1577**	**1.1577**	**4.0000e-005**	**4.0000e-005**	**1.1696**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1143	0.1755	2.7000e-004		5.6200e-003	5.6200e-003		5.1700e-003	5.1700e-003	0.0000	24.0318	24.0318	7.7700e-003	0.0000	24.2261
Paving	2.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0142**	**0.1143**	**0.1755**	**2.7000e-004**		**5.6200e-003**	**5.6200e-003**		**5.1700e-003**	**5.1700e-003**	**0.0000**	**24.0318**	**24.0318**	**7.7700e-003**	**0.0000**	**24.2261**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	4.1000e-004	5.0900e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	3.9000e-004	0.0000	1.1577	1.1577	4.0000e-005	4.0000e-005	1.1696
Total	**5.2000e-004**	**4.1000e-004**	**5.0900e-003**	**1.0000e-005**	**1.4500e-003**	**1.0000e-005**	**1.4600e-003**	**3.9000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1577**	**1.1577**	**4.0000e-005**	**4.0000e-005**	**1.1696**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5582					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6200e-003	0.0244	0.0362	6.0000e-005		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003	0.0000	5.1065	5.1065	2.9000e-004	0.0000	5.1137
Total	**0.5618**	**0.0244**	**0.0362**	**6.0000e-005**		**1.2200e-003**	**1.2200e-003**		**1.2200e-003**	**1.2200e-003**	**0.0000**	**5.1065**	**5.1065**	**2.9000e-004**	**0.0000**	**5.1137**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2900e-003	2.6000e-003	0.0323	8.0000e-005	9.1800e-003	5.0000e-005	9.2400e-003	2.4400e-003	5.0000e-005	2.4900e-003	0.0000	7.3323	7.3323	2.5000e-004	2.3000e-004	7.4071
Total	**3.2900e-003**	**2.6000e-003**	**0.0323**	**8.0000e-005**	**9.1800e-003**	**5.0000e-005**	**9.2400e-003**	**2.4400e-003**	**5.0000e-005**	**2.4900e-003**	**0.0000**	**7.3323**	**7.3323**	**2.5000e-004**	**2.3000e-004**	**7.4071**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5582					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6200e-003	0.0244	0.0362	6.0000e-005		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003	0.0000	5.1065	5.1065	2.9000e-004	0.0000	5.1137
Total	**0.5618**	**0.0244**	**0.0362**	**6.0000e-005**		**1.2200e-003**	**1.2200e-003**		**1.2200e-003**	**1.2200e-003**	**0.0000**	**5.1065**	**5.1065**	**2.9000e-004**	**0.0000**	**5.1137**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2900e-003	2.6000e-003	0.0323	8.0000e-005	9.1800e-003	5.0000e-005	9.2400e-003	2.4400e-003	5.0000e-005	2.4900e-003	0.0000	7.3323	7.3323	2.5000e-004	2.3000e-004	7.4071
Total	**3.2900e-003**	**2.6000e-003**	**0.0323**	**8.0000e-005**	**9.1800e-003**	**5.0000e-005**	**9.2400e-003**	**2.4400e-003**	**5.0000e-005**	**2.4900e-003**	**0.0000**	**7.3323**	**7.3323**	**2.5000e-004**	**2.3000e-004**	**7.4071**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1263	1.6654	1.6718	8.3000e-003	0.4402	9.4500e-003	0.4496	0.1184	8.9800e-003	0.1274	0.0000	787.7601	787.7601	0.0131	0.0975	817.1429
Unmitigated	0.1263	1.6654	1.6718	8.3000e-003	0.4402	9.4500e-003	0.4496	0.1184	8.9800e-003	0.1274	0.0000	787.7601	787.7601	0.0131	0.0975	817.1429

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Manufacturing	288.71	288.71	0.00	722,480	722,480
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	174.96	174.96	0.00	398,490	398,490
Parking Lot	0.00	0.00	0.00		
Total	463.67	463.67	0.00	1,120,970	1,120,970

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Manufacturing	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	100.00	100	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531
Manufacturing	0.500000	0.250000	0.250000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Parking Lot	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	319.9588	319.9588	0.0270	3.2700e-003	321.6094
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	319.9588	319.9588	0.0270	3.2700e-003	321.6094
NaturalGas Mitigated	0.0159	0.1444	0.1213	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	157.2182	157.2182	3.0100e-003	2.8800e-003	158.1525
NaturalGas Unmitigated	0.0159	0.1444	0.1213	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	157.2182	157.2182	3.0100e-003	2.8800e-003	158.1525

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Manufacturing	2.94616e+006	0.0159	0.1444	0.1213	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	157.2182	157.2182	3.0100e-003	2.8800e-003	158.1525
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0159**	**0.1444**	**0.1213**	**8.7000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**157.2182**	**157.2182**	**3.0100e-003**	**2.8800e-003**	**158.1525**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Manufacturing	2.94616e+006	0.0159	0.1444	0.1213	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	157.2182	157.2182	3.0100e-003	2.8800e-003	158.1525
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0159**	**0.1444**	**0.1213**	**8.7000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**157.2182**	**157.2182**	**3.0100e-003**	**2.8800e-003**	**158.1525**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Manufacturing	1.78147e+006	315.9366	0.0267	3.2300e-003	317.5664
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	22680	4.0222	3.4000e-004	4.0000e-005	4.0430
Total		**319.9588**	**0.0270**	**3.2700e-003**	**321.6094**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Manufacturing	1.78147e+006	315.9366	0.0267	3.2300e-003	317.5664
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	22680	4.0222	3.4000e-004	4.0000e-005	4.0430
Total		**319.9588**	**0.0270**	**3.2700e-003**	**321.6094**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7637	3.0000e-005	3.2300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.2900e-003	6.2900e-003	2.0000e-005	0.0000	6.7000e-003
Unmitigated	0.7637	3.0000e-005	3.2300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.2900e-003	6.2900e-003	2.0000e-005	0.0000	6.7000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0558					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7076					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-004	3.0000e-005	3.2300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.2900e-003	6.2900e-003	2.0000e-005	0.0000	6.7000e-003
Total	**0.7637**	**3.0000e-005**	**3.2300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.2900e-003**	**6.2900e-003**	**2.0000e-005**	**0.0000**	**6.7000e-003**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0558					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7076					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-004	3.0000e-005	3.2300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.2900e-003	6.2900e-003	2.0000e-005	0.0000	6.7000e-003
Total	**0.7637**	**3.0000e-005**	**3.2300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.2900e-003**	**6.2900e-003**	**2.0000e-005**	**0.0000**	**6.7000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	109.9626	1.2444	0.0302	150.0676
Unmitigated	109.9626	1.2444	0.0302	150.0676

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 5.24252	10.3294	8.7000e-004	1.1000e-004	10.3827
Manufacturing	37.9342 / 0	99.6332	1.2435	0.0301	139.6849
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**109.9626**	**1.2444**	**0.0302**	**150.0676**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 5.24252	10.3294	8.7000e-004	1.1000e-004	10.3827
Manufacturing	37.9342 / 0	99.6332	1.2435	0.0301	139.6849
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**109.9626**	**1.2444**	**0.0302**	**150.0676**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	41.3675	2.4448	0.0000	102.4863
Unmitigated	41.3675	2.4448	0.0000	102.4863

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.38	0.0771	4.5600e-003	0.0000	0.1911
Manufacturing	203.41	41.2904	2.4402	0.0000	102.2952
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**41.3675**	**2.4448**	**0.0000**	**102.4863**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.38	0.0771	4.5600e-003	0.0000	0.1911
Manufacturing	203.41	41.2904	2.4402	0.0000	102.2952
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**41.3675**	**2.4448**	**0.0000**	**102.4863**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	10	14.40	312	53	0.20	CNG
Rubber Tired Loaders	1	4.00	312	153	0.36	Diesel

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Forklifts	0.0224	1.0920	15.4247	2.5600e-003		0.0165	0.0165		0.0165	0.0165	0.0000	293.3310	293.3310	0.0949	0.0000	295.7027
Rubber Tired Loaders	0.0186	0.1427	0.2492	3.7000e-004		7.6100e-003	7.6100e-003		7.0000e-003	7.0000e-003	0.0000	32.3322	32.3322	0.0105	0.0000	32.5936
Total	**0.0410**	**1.2348**	**15.6739**	**2.9300e-003**		**0.0241**	**0.0241**		**0.0235**	**0.0235**	**0.0000**	**325.6632**	**325.6632**	**0.1053**	**0.0000**	**328.2963**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Fire Pump	1	0.25	4	100	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	2	34.22	2074	2	CNG

User Defined Equipment

Equipment Type	Number

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Boiler - CNG (2 - 5 MMBTU)	0.0112	0.0228	0.1993	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.3569	221.3569	4.2400e-003	0.0000	221.4629
Fire Pump - Diesel (100 - 175 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0112**	**0.0228**	**0.1993**	**1.2200e-003**		**0.0155**	**0.0155**		**0.0155**	**0.0155**	**0.0000**	**221.3569**	**221.3569**	**4.2400e-003**	**0.0000**	**221.4629**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA

Antelope Valley APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	164.04	1000sqft	3.77	164,040.00	0
Other Asphalt Surfaces	1.45	Acre	1.45	63,162.00	0
Other Non-Asphalt Surfaces	20.18	Acre	20.18	879,040.80	0
Parking Lot	162.00	Space	1.20	64,800.00	0
City Park	4.40	Acre	4.40	191,664.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Information provided by client.

Construction Phase - Start date, days per week, and total days for each phase provided by client on data request form.

Off-road Equipment - Number of equipment provided by client on data request form.

Off-road Equipment - Number of equipment provided by client on data request form.

Off-road Equipment - Number of equipment provided by client on data request form.

Off-road Equipment -

Off-road Equipment - Number of equipment provided by client on data request form.

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading - Material import/export provided by client on data request form.

Architectural Coating - VOC limits from AVAQMD Rule 1113. For the building, assumes 90% flat paint (50 g/L) and 10% non-flat (100 g/L). For parking lot coatings, assumed to be compliant with the Traffic Marking Coating category VOC limit of 100 g/L.

Vehicle Trips - All areas modeled as a City Park are within the site and no vehicle trips are expected. Manufacturing land use will see 288 employees per day. Other Non-Asphalt Surfaces land use will see 175 HHD trucks per day to account for estimated on-road equipment. The estimated operational schedule is 6 days/week, so trip rates were included for weekdays and Saturdays.

Area Coating - VOC limits from AVAQMD Rule 1113. For the building, assumes 90% flat paint (50 g/L) and 10% non-flat (100 g/L). For parking lot coatings, assumed to be compliant with the Traffic Marking Coating category VOC limit of 100 g/L.

Construction Off-road Equipment Mitigation - Assumes that construction site will be watered 3 times per day to be in compliance with AVAQMD Rule 403.

Area Mitigation - -

Operational Off-Road Equipment - Equipment information and operational details confirmed by client on data request form.

Fleet Mix - Other Non-Asphalt Surfaces land use will see 175 HHD trucks per day. Manufacturing land use will see 288 vehicles per day with 50% of vehicles LDA, 25% LDT1, and 25% LDT2.

Stationary Sources - Emergency Generators and Fire Pumps - Fire pump is expected to be electric. Estimated 15 minutes per month provided by client on data request form (assumed done in one day). Four hours per year provided by client on data request form.

Stationary Sources - Process Boilers - Boiler information confirmed with client.

Stationary Sources - Emergency Generators and Fire Pumps EF - Fire pump is expected to be electric.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	55.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	55.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	55.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	55.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	55
tblAreaCoating	Area_EF_Nonresidential_Interior	250	55
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	55
tblAreaCoating	Area_EF_Residential_Interior	250	55
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	45.00	36.00
tblConstructionPhase	NumDays	500.00	216.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	35.00	36.00
tblConstructionPhase	NumDays	35.00	20.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblFleetMix	HHD	9.1440e-003	0.00
tblFleetMix	HHD	9.1440e-003	1.00
tblFleetMix	LDA	0.59	0.50
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDT1	0.05	0.25
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.14	0.25
tblFleetMix	LDT2	0.14	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.3230e-003	0.00
tblFleetMix	LHD2	7.3230e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	6.5310e-003	0.00
tblFleetMix	MH	6.5310e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	6.7800e-004	0.00
tblFleetMix	OBUS	6.7800e-004	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFleetMix	SBUS	2.5010e-003	0.00
tblFleetMix	SBUS	2.5010e-003	0.00
tblFleetMix	UBUS	4.9500e-004	0.00
tblFleetMix	UBUS	4.9500e-004	0.00
tblGrading	MaterialExported	0.00	375.00
tblGrading	MaterialImported	0.00	23,000.00
tblLandUse	LotAcreage	1.46	1.20
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperHorsePower	89.00	53.00
tblOperationalOffRoadEquipment	OperHorsePower	203.00	153.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	14.40
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	10.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	2,074.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	2.00
tblStationaryBoilersUse	DailyHeatInput	0.00	34.22
tblStationaryBoilersUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblStationaryGeneratorsPumpsEF	CO_EF	3.70	0.00
tblStationaryGeneratorsPumpsEF	CO2_EF	1.15	0.00
tblStationaryGeneratorsPumpsEF	NOX_EF	2.85	0.00
tblStationaryGeneratorsPumpsEF	PM10_EF	0.22	0.00
tblStationaryGeneratorsPumpsEF	PM2_5_EF	0.22	0.00
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	0.00
tblStationaryGeneratorsPumpsEF	SO2_EF	4.9000e-003	0.00
tblStationaryGeneratorsPumpsEF	TOG_EF	2.4700e-003	0.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	100.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.25
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	4.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	0.00	100.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	6.42	1.76
tblVehicleTrips	ST_TR	0.00	8.67
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	0.78	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	WD_TR	3.93	1.76
tblVehicleTrips	WD_TR	0.00	8.67

2.0 Emissions Summary

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.8286	53.6934	47.5269	0.1286	13.2589	1.8840	14.0557	6.7761	1.7354	7.5092	0.0000	12,902.3729	12,902.3729	2.5537	0.7757	13,158.3339
2024	56.5727	9.5553	15.1177	0.0240	0.9365	0.4692	1.0638	0.2484	0.4317	0.4644	0.0000	2,323.5202	2,323.5202	0.7175	0.0236	2,342.3827
Maximum	**56.5727**	**53.6934**	**47.5269**	**0.1286**	**13.2589**	**1.8840**	**14.0557**	**6.7761**	**1.7354**	**7.5092**	**0.0000**	**12,902.3729**	**12,902.3729**	**2.5537**	**0.7757**	**13,158.3339**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.8286	53.6934	47.5269	0.1286	6.2095	1.8840	7.5181	2.6674	1.7354	3.6469	0.0000	12,902.3729	12,902.3729	2.5537	0.7757	13,158.3339
2024	56.5727	9.5553	15.1177	0.0240	0.9365	0.4692	1.0638	0.2484	0.4317	0.4644	0.0000	2,323.5202	2,323.5202	0.7175	0.0236	2,342.3827
Maximum	**56.5727**	**53.6934**	**47.5269**	**0.1286**	**6.2095**	**1.8840**	**7.5181**	**2.6674**	**1.7354**	**3.6469**	**0.0000**	**12,902.3729**	**12,902.3729**	**2.5537**	**0.7757**	**13,158.3339**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**49.66**	**0.00**	**43.24**	**58.49**	**0.00**	**48.44**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.1862	3.3000e-004	0.0359	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0771	0.0771	2.0000e-004		0.0821
Energy	0.0871	0.7913	0.6647	4.7500e-003		0.0601	0.0601		0.0601	0.0601		949.6079	949.6079	0.0182	0.0174	955.2509
Mobile	0.9755	10.1169	11.5533	0.0545	2.8754	0.0605	2.9359	0.7722	0.0575	0.8297		5,701.4616	5,701.4616	0.0897	0.6850	5,907.8367
Offroad	0.2628	7.9150	100.4738	0.0187		0.1543	0.1543		0.1504	0.1504	0.0000	2,301.1708	2,301.1708	0.7443		2,319.7770
Stationary	0.3691	0.7529	6.5757	0.0403		0.5100	0.5100		0.5100	0.5100		8,051.9023	8,051.9023	0.1543		8,055.7605
Total	**5.8806**	**19.5764**	**119.3034**	**0.1183**	**2.8754**	**0.7850**	**3.6604**	**0.7722**	**0.7781**	**1.5504**	**0.0000**	**17,004.2196**	**17,004.2196**	**1.0067**	**0.7024**	**17,238.7071**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.1862	3.3000e-004	0.0359	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0771	0.0771	2.0000e-004		0.0821
Energy	0.0871	0.7913	0.6647	4.7500e-003		0.0601	0.0601		0.0601	0.0601		949.6079	949.6079	0.0182	0.0174	955.2509
Mobile	0.9755	10.1169	11.5533	0.0545	2.8754	0.0605	2.9359	0.7722	0.0575	0.8297		5,701.4616	5,701.4616	0.0897	0.6850	5,907.8367
Offroad	0.2628	7.9150	100.4738	0.0187		0.1543	0.1543		0.1504	0.1504	0.0000	2,301.1708	2,301.1708	0.7443		2,319.7770
Stationary	0.3691	0.7529	6.5757	0.0403		0.5100	0.5100		0.5100	0.5100		8,051.9023	8,051.9023	0.1543		8,055.7605
Total	**5.8806**	**19.5764**	**119.3034**	**0.1183**	**2.8754**	**0.7850**	**3.6604**	**0.7722**	**0.7781**	**1.5504**	**0.0000**	**17,004.2196**	**17,004.2196**	**1.0067**	**0.7024**	**17,238.7071**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	2/13/2023	2/25/2023	6	12	
2	Grading	Grading	2/26/2023	4/8/2023	6	36	
3	Building Construction	Building Construction	4/9/2023	12/16/2023	6	216	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Paving	Paving	12/17/2023	1/27/2024	6	36	
5	Architectural Coating	Architectural Coating	1/28/2024	2/20/2024	6	20	

Acres of Grading (Site Preparation Phase): 12

Acres of Grading (Grading Phase): 144

Acres of Paving: 22.83

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 246,060; Non-Residential Outdoor: 82,020; Striped Parking Area: 60,420 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	3	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	2	6.00	78	0.48

Trips and VMT

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	10.00	0.00	47.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	10	25.00	0.00	2,875.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	572.00	223.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	114.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1082	0.0000	13.1082	6.7355	0.0000	6.7355			0.0000			0.0000
Off-Road	1.6721	17.3257	10.6753	0.0233		0.7935	0.7935		0.7300	0.7300		2,257.1544	2,257.1544	0.7300		2,275.4046
Total	**1.6721**	**17.3257**	**10.6753**	**0.0233**	**13.1082**	**0.7935**	**13.9017**	**6.7355**	**0.7300**	**7.4655**		**2,257.1544**	**2,257.1544**	**0.7300**		**2,275.4046**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.1000e-003	0.4562	0.1192	2.1900e-003	0.0685	2.8300e-003	0.0714	0.0188	2.7000e-003	0.0215		231.9043	231.9043	1.4700e-003	0.0365	242.8052
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0371	0.0230	0.3651	7.9000e-004	0.0822	5.1000e-004	0.0827	0.0218	4.7000e-004	0.0223		79.4317	79.4317	2.6200e-003	2.2400e-003	80.1646
Total	**0.0462**	**0.4792**	**0.4842**	**2.9800e-003**	**0.1507**	**3.3400e-003**	**0.1540**	**0.0406**	**3.1700e-003**	**0.0438**		**311.3360**	**311.3360**	**4.0900e-003**	**0.0387**	**322.9698**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1122	0.0000	5.1122	2.6268	0.0000	2.6268			0.0000			0.0000
Off-Road	1.6721	17.3257	10.6753	0.0233		0.7935	0.7935		0.7300	0.7300	0.0000	2,257.1544	2,257.1544	0.7300		2,275.4046
Total	**1.6721**	**17.3257**	**10.6753**	**0.0233**	**5.1122**	**0.7935**	**5.9057**	**2.6268**	**0.7300**	**3.3568**	**0.0000**	**2,257.1544**	**2,257.1544**	**0.7300**		**2,275.4046**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.1000e-003	0.4562	0.1192	2.1900e-003	0.0685	2.8300e-003	0.0714	0.0188	2.7000e-003	0.0215		231.9043	231.9043	1.4700e-003	0.0365	242.8052
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0371	0.0230	0.3651	7.9000e-004	0.0822	5.1000e-004	0.0827	0.0218	4.7000e-004	0.0223		79.4317	79.4317	2.6200e-003	2.2400e-003	80.1646
Total	**0.0462**	**0.4792**	**0.4842**	**2.9800e-003**	**0.1507**	**3.3400e-003**	**0.1540**	**0.0406**	**3.1700e-003**	**0.0438**		**311.3360**	**311.3360**	**4.0900e-003**	**0.0387**	**322.9698**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					10.3363	0.0000	10.3363	3.7792	0.0000	3.7792			0.0000			0.0000
Off-Road	4.2599	44.3347	36.4195	0.0804		1.8251	1.8251		1.6791	1.6791		7,783.1830	7,783.1830	2.5172		7,846.1140
Total	**4.2599**	**44.3347**	**36.4195**	**0.0804**	**10.3363**	**1.8251**	**12.1614**	**3.7792**	**1.6791**	**5.4583**		**7,783.1830**	**7,783.1830**	**2.5172**		**7,846.1140**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1855	9.3012	2.4297	0.0446	1.3975	0.0576	1.4552	0.3831	0.0552	0.4383		4,728.5451	4,728.5451	0.0299	0.7434	4,950.8157
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0927	0.0576	0.9126	1.9600e-003	0.2054	1.2700e-003	0.2066	0.0545	1.1700e-003	0.0556		198.5793	198.5793	6.5400e-003	5.6000e-003	200.4115
Total	**0.2782**	**9.3587**	**3.3423**	**0.0466**	**1.6029**	**0.0589**	**1.6618**	**0.4376**	**0.0563**	**0.4939**		**4,927.1244**	**4,927.1244**	**0.0365**	**0.7490**	**5,151.2273**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.0312	0.0000	4.0312	1.4739	0.0000	1.4739			0.0000			0.0000
Off-Road	4.2599	44.3347	36.4195	0.0804		1.8251	1.8251		1.6791	1.6791	0.0000	7,783.1830	7,783.1830	2.5172		7,846.1140
Total	**4.2599**	**44.3347**	**36.4195**	**0.0804**	**4.0312**	**1.8251**	**5.8563**	**1.4739**	**1.6791**	**3.1530**	**0.0000**	**7,783.1830**	**7,783.1830**	**2.5172**		**7,846.1140**

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1855	9.3012	2.4297	0.0446	1.3975	0.0576	1.4552	0.3831	0.0552	0.4383		4,728.5451	4,728.5451	0.0299	0.7434	4,950.8157
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0927	0.0576	0.9126	1.9600e-003	0.2054	1.2700e-003	0.2066	0.0545	1.1700e-003	0.0556		198.5793	198.5793	6.5400e-003	5.6000e-003	200.4115
Total	**0.2782**	**9.3587**	**3.3423**	**0.0466**	**1.6029**	**0.0589**	**1.6618**	**0.4376**	**0.0563**	**0.4939**		**4,927.1244**	**4,927.1244**	**0.0365**	**0.7490**	**5,151.2273**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.4406	21.8596	23.1964	0.0411		1.0226	1.0226		0.9701	0.9701		3,874.6891	3,874.6891	0.8160		3,895.0898
Total	**2.4406**	**21.8596**	**23.1964**	**0.0411**		**1.0226**	**1.0226**		**0.9701**	**0.9701**		**3,874.6891**	**3,874.6891**	**0.8160**		**3,895.0898**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2665	8.5928	3.4497	0.0425	1.5107	0.0403	1.5509	0.4349	0.0385	0.4734		4,484.1886	4,484.1886	0.0262	0.6476	4,677.8285
Worker	2.1215	1.3169	20.8808	0.0450	4.6988	0.0290	4.7279	1.2464	0.0267	1.2731		4,543.4952	4,543.4952	0.1497	0.1281	4,585.4156
Total	**2.3880**	**9.9098**	**24.3305**	**0.0875**	**6.2095**	**0.0693**	**6.2788**	**1.6813**	**0.0652**	**1.7465**		**9,027.6838**	**9,027.6838**	**0.1759**	**0.7757**	**9,263.2441**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.4406	21.8596	23.1964	0.0411		1.0226	1.0226		0.9701	0.9701	0.0000	3,874.6891	3,874.6891	0.8160		3,895.0898
Total	**2.4406**	**21.8596**	**23.1964**	**0.0411**		**1.0226**	**1.0226**		**0.9701**	**0.9701**	**0.0000**	**3,874.6891**	**3,874.6891**	**0.8160**		**3,895.0898**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2665	8.5928	3.4497	0.0425	1.5107	0.0403	1.5509	0.4349	0.0385	0.4734		4,484.1886	4,484.1886	0.0262	0.6476	4,677.8285
Worker	2.1215	1.3169	20.8808	0.0450	4.6988	0.0290	4.7279	1.2464	0.0267	1.2731		4,543.4952	4,543.4952	0.1497	0.1281	4,585.4156
Total	**2.3880**	**9.9098**	**24.3305**	**0.0875**	**6.2095**	**0.0693**	**6.2788**	**1.6813**	**0.0652**	**1.7465**		**9,027.6838**	**9,027.6838**	**0.1759**	**0.7757**	**9,263.2441**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.1929					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2256**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0556	0.0345	0.5476	1.1800e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		119.1476	119.1476	3.9300e-003	3.3600e-003	120.2469
Total	**0.0556**	**0.0345**	**0.5476**	**1.1800e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**119.1476**	**119.1476**	**3.9300e-003**	**3.3600e-003**	**120.2469**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.1929					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2256**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0556	0.0345	0.5476	1.1800e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		119.1476	119.1476	3.9300e-003	3.3600e-003	120.2469
Total	**0.0556**	**0.0345**	**0.5476**	**1.1800e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**119.1476**	**119.1476**	**3.9300e-003**	**3.3600e-003**	**120.2469**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.1929					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1810**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0515	0.0307	0.4919	1.1500e-003	0.1232	7.2000e-004	0.1239	0.0327	6.6000e-004	0.0333		115.9730	115.9730	3.5200e-003	3.1100e-003	116.9864
Total	**0.0515**	**0.0307**	**0.4919**	**1.1500e-003**	**0.1232**	**7.2000e-004**	**0.1239**	**0.0327**	**6.6000e-004**	**0.0333**		**115.9730**	**115.9730**	**3.5200e-003**	**3.1100e-003**	**116.9864**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.1929					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1810**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0515	0.0307	0.4919	1.1500e-003	0.1232	7.2000e-004	0.1239	0.0327	6.6000e-004	0.0333		115.9730	115.9730	3.5200e-003	3.1100e-003	116.9864
Total	**0.0515**	**0.0307**	**0.4919**	**1.1500e-003**	**0.1232**	**7.2000e-004**	**0.1239**	**0.0327**	**6.6000e-004**	**0.0333**		**115.9730**	**115.9730**	**3.5200e-003**	**3.1100e-003**	**116.9864**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.8202					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3615	2.4376	3.6203	5.9400e-003		0.1218	0.1218		0.1218	0.1218		562.8961	562.8961	0.0317		563.6885
Total	**56.1818**	**2.4376**	**3.6203**	**5.9400e-003**		**0.1218**	**0.1218**		**0.1218**	**0.1218**		**562.8961**	**562.8961**	**0.0317**		**563.6885**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3910	0.2333	3.7386	8.7200e-003	0.9365	5.4400e-003	0.9419	0.2484	5.0100e-003	0.2534		881.3951	881.3951	0.0267	0.0236	889.0965
Total	**0.3910**	**0.2333**	**3.7386**	**8.7200e-003**	**0.9365**	**5.4400e-003**	**0.9419**	**0.2484**	**5.0100e-003**	**0.2534**		**881.3951**	**881.3951**	**0.0267**	**0.0236**	**889.0965**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.8202					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3615	2.4376	3.6203	5.9400e-003		0.1218	0.1218		0.1218	0.1218	0.0000	562.8961	562.8961	0.0317		563.6885
Total	**56.1818**	**2.4376**	**3.6203**	**5.9400e-003**		**0.1218**	**0.1218**		**0.1218**	**0.1218**	**0.0000**	**562.8961**	**562.8961**	**0.0317**		**563.6885**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3910	0.2333	3.7386	8.7200e-003	0.9365	5.4400e-003	0.9419	0.2484	5.0100e-003	0.2534		881.3951	881.3951	0.0267	0.0236	889.0965
Total	**0.3910**	**0.2333**	**3.7386**	**8.7200e-003**	**0.9365**	**5.4400e-003**	**0.9419**	**0.2484**	**5.0100e-003**	**0.2534**		**881.3951**	**881.3951**	**0.0267**	**0.0236**	**889.0965**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.9755	10.1169	11.5533	0.0545	2.8754	0.0605	2.9359	0.7722	0.0575	0.8297		5,701.4616	5,701.4616	0.0897	0.6850	5,907.8367
Unmitigated	0.9755	10.1169	11.5533	0.0545	2.8754	0.0605	2.9359	0.7722	0.0575	0.8297		5,701.4616	5,701.4616	0.0897	0.6850	5,907.8367

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Manufacturing	288.71	288.71	0.00	722,480	722,480
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	174.96	174.96	0.00	398,490	398,490
Parking Lot	0.00	0.00	0.00		
Total	463.67	463.67	0.00	1,120,970	1,120,970

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Manufacturing	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	100.00	100	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531
Manufacturing	0.500000	0.250000	0.250000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Parking Lot	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0871	0.7913	0.6647	4.7500e-003		0.0601	0.0601		0.0601	0.0601		949.6079	949.6079	0.0182	0.0174	955.2509
NaturalGas Unmitigated	0.0871	0.7913	0.6647	4.7500e-003		0.0601	0.0601		0.0601	0.0601		949.6079	949.6079	0.0182	0.0174	955.2509

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Manufacturing	8071.67	0.0871	0.7913	0.6647	4.7500e-003		0.0601	0.0601		0.0601	0.0601		949.6079	949.6079	0.0182	0.0174	955.2509
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0871**	**0.7913**	**0.6647**	**4.7500e-003**		**0.0601**	**0.0601**		**0.0601**	**0.0601**		**949.6079**	**949.6079**	**0.0182**	**0.0174**	**955.2509**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Manufacturing	8.07167	0.0871	0.7913	0.6647	4.7500e-003		0.0601	0.0601		0.0601	0.0601		949.6079	949.6079	0.0182	0.0174	955.2509
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0871**	**0.7913**	**0.6647**	**4.7500e-003**		**0.0601**	**0.0601**		**0.0601**	**0.0601**		**949.6079**	**949.6079**	**0.0182**	**0.0174**	**955.2509**

6.0 Area Detail

6.1 Mitigation Measures Area

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.1862	3.3000e-004	0.0359	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0771	0.0771	2.0000e-004		0.0821
Unmitigated	4.1862	3.3000e-004	0.0359	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0771	0.0771	2.0000e-004		0.0821

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3059					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.8770					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.3100e-003	3.3000e-004	0.0359	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0771	0.0771	2.0000e-004		0.0821
Total	**4.1862**	**3.3000e-004**	**0.0359**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**		**0.0771**	**0.0771**	**2.0000e-004**		**0.0821**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3059					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.8770					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.3100e-003	3.3000e-004	0.0359	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0771	0.0771	2.0000e-004		0.0821
Total	**4.1862**	**3.3000e-004**	**0.0359**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**		**0.0771**	**0.0771**	**2.0000e-004**		**0.0821**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	10	14.40	312	53	0.20	CNG
Rubber Tired Loaders	1	4.00	312	153	0.36	Diesel

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Forklifts	0.1433	7.0001	98.8766	0.0164		0.1055	0.1055		0.1055	0.1055	0.0000	2,072.7081	2,072.7081	0.6704		2,089.4669
Rubber Tired Loaders	0.1195	0.9149	1.5972	2.3600e-003		0.0488	0.0488		0.0449	0.0449	0.0000	228.4628	228.4628	0.0739		230.3100
Total	**0.2628**	**7.9150**	**100.4738**	**0.0187**		**0.1543**	**0.1543**		**0.1504**	**0.1504**	**0.0000**	**2,301.1708**	**2,301.1708**	**0.7443**		**2,319.7770**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Fire Pump	1	0.25	4	100	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	2	34.22	2074	2	CNG

User Defined Equipment

Equipment Type	Number

Air Quality Study - Quikrete Concrete Paver & Bagging Plant, Palmdale, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (2 - 5 MMBTU)	0.3691	0.7529	6.5757	0.0403		0.5100	0.5100		0.5100	0.5100		8,051.9023	8,051.9023	0.1543		8,055.7605
Fire Pump - Diesel (100 - 175 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3691**	**0.7529**	**6.5757**	**0.0403**		**0.5100**	**0.5100**		**0.5100**	**0.5100**		**8,051.9023**	**8,051.9023**	**0.1543**		**8,055.7605**

11.0 Vegetation

ATTACHMENT C – TAC Emission Calculations

Attachment C1: On-road Diesel Truck TAC emissions (Paver Plant)

2023 Freightliner Cascadia Truck

Input	Parameter	Units	Notes
# of trucks trips per day	65		
Facility Operation	6	days per week	
	52	weeks per year	
Engine max power	400	bhp	per email from Steve Delfino (8/17/2017 @ 8:14AM)
Engine average operating power while on faciltiy	200	bhp	per email from Steve Delfino (8/17/2017 @ 10:19AM)
Max truck operation per trip	15	min	per email from Roman Olmos (8/15/2017 @ 3:56PM)
Max # of trucks per hour	3.5	trucks	per email from Barry Munz (7/25/2017 @ 5:56PM)
PM Emission Standard	0.01	g/bhp-hr	
	0.004	lb/hr	per 2010 Model Year Onroad Emissions Standards (see below)
Total Annual PM Emissions	22.35	lb/yr	
Maximum Hourly PM Emissions	0.004	lb/hr	
HC Emission Standard	0.14	g/bhp-hr	
	0.062	lb/hr	
Total Annual HC Emissions	312.97	lb/yr	
Maximum Hourly HC Emissions	0.054	lb/hr	

TAC w/Acute and/or 8-hr REL	CAS	Wt frac of PM	ARB PM Profile	lb/yr	lb/hr
Chlorine	7782505	0.000443	7232	Not included, annual emissions from Diesel PM used to calculate cancer and chronic	1.71E-06
Copper	7440508	0.000168	7232		6.48E-07
Manganese	7439965	0.000149	7232		5.75E-07
Nickel	7440020	0.000142	7232		5.48E-07
TAC w/Acute and/or 8-hr REL	**CAS**	**Wt frac of HC**	**ARB Org Profile**	**lb/yr**	**lb/hr**
1,3-Butadiene	106990	0.0019	818	Not included, annual emissions from Diesel PM used to calculate cancer and chronic	1.03E-04
Methanol	67561	0.0003	818		1.62E-05
Formaldehyde	50000	0.14714	818		7.95E-03
Acetaldehyde	75070	0.07353	818		3.97E-03
Methyl ethyl ketone	78933	0.01476998	818		7.98E-04
Benzene	71432	0.02000998	818		1.08E-03
Toluene	108883	0.01473	818		7.96E-04
o-Xylene	95476	0.00335	818		1.81E-04
m-Xylene	108383	0.00611	818		3.30E-04
p-Xylene	106423	0.00095	818		5.13E-05
Styrene	100425	0.00058	818		3.13E-05

Constants:

1 lb = 453.592 grams

1 hr = 60 min

HHV_{Diesel} = 137,000 BTU/gallon

7,000 Btu/hp-hr was used to convert from lb/MMBtu to lb/hp-hr

Attachment C1: On-road Diesel Truck TAC emissions (Paver Plant)

Notes:

ARB PM Profile Number

7231	2023 HEAVY-DUTY DIESEL TRUCK-idle (2016 UPDATE)
7232	2023 HEAVY-DUTY DIESEL TRUCK-cruise (2016 UPDATE)
7233	2023 HEAVY-DUTY DIESEL TRUCK-transient (2016 UPDATE)

ARB ORG Profile Number

818 Farm equipment - diesel - light & heavy - (ems=actual weight)

https://www.arb.ca.gov/ei/speciate/speciate.htm

ARB PM profile for transient was used to conservatively represent truck operations within the facility boundaries.

EPA United States Environmental Protection Agency

Office of Transportation and Air Quality
EPA-420-B-16-018
March 2016

Heavy-Duty Highway Compression-Ignition Engines and Urban Buses: Exhaust Emission Standards

	Year	HC (g/bhp-hr)	NMH C (g/bhp-hr)	NMHC + NOx g/bhp-hr)	NOx (g/bhp-hr)	PM (g/bhp-hr)	CO (gbhp-hr)	Idle CO (percent exhaust gas flow)	Smoke [a] (Percentage)	Useful Life (hours/years/miles)	Warranty Period (years/miles)
Federal [b]	1974-78	-	-	16	-	-	40	-	20 / 15 / 50	-	-
	1979-84	1.5	-	10	-	-	25	-	20 / 15 / 50	-	-
	1985-87	1.3	-	-	10.7	-	15.5	-	20 / 15 / 50	LHDDE: - / 8 / 110,000 MHDDE: - / 8 / 185,000 HHDDE: - / 8 / 290,000	-
	1988-89	1.3 [d]	-	-	10.7	0.6	15.5	0.5 [c]	20 / 15 / 50	1990-97 and 1998+ for HC, CO, and PM: LHDDE: - / 8 / 110,000 MHDDE: - / 8 / 185,000 HHDDE: - / 8 / 290,000 1994+ urban buses for PM only: - / 10 / 290,000 1998+ for NOx: LHDDE: - / 10 / 110,000 MHDDE: - / 10 / 185,000 HHDDE: - / 10 / 290,000	5 / 100,000 [q]
	1990	1.3 [d]	-	-	6.0	0.6	15.5	0.5 [c]	20 / 15 / 50		
	1991-93	1.3	-	-	5.0 [ABT]	0.25 [ABT] 0.10 [e]	15.5	0.5 [c]	20 / 15 / 50		
	1994-97	1.3	-	-	5.0 [ABT]	0.1 [ABT] 0.07[f], 0.05 [g]	15.5	0.5 [c]	20 / 15 / 50		
	1998-2003	1.3	-	-	4.0 [ABT]	0.1 [ABT] 0.05 [g]	15.5	0.5 [c]	20 / 15 / 50		
	2004-2006 [h]	-	-	2.4 (or 2.5 with a limit of 0.5 on NMHC) [c] [ABT [i, j]]	-	0.1 0.05 [g]	15.5	0.5	20 / 15 / 50	For all pollutants: [p] LHDDE: - / 10 / 110,000 MHDDE: - / 10 / 185,000 HHDDE: 22,000 / 10 / 435,000	LHDDE: 5 / 50,000 All other HDDE: 5 / 100,000 [q]
	2007+ [h, k, l, m, n]	-	0.14 [c]	2.4 (or 2.5 with a limit of 0.5 on NMHC) [ABT]	0.2 [c]	0.01	15.5	0.5	20 / 15 / 50		

Organic Profile for diesel farm equipment

OG PROFILE NUMBE	OG PROFILE NAME	SAROAD	SPECIES	WEIGHT FRACTION	TOG/THC
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43218	1,3-butadiene	0.0019	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43301	methanol	0.0003	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43502	formaldehyde	0.14714	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43503	acetaldehyde	0.07353	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43552	methyl ethyl ketone {2-butanone}	0.01476998	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45201	benzene	0.02000998	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45202	toluene	0.01473	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45204	o-xylene	0.00335	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45205	m-xylene	0.00611	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45206	p-xylene	0.00095	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45220	styrene	0.00058	

PM Profile for Heavy Duty

PM PROFILE NUMBER	SAROAD	SPECIES	WEIGHT FRACTION OF PM2.5	WEIGHT FRACTION OF PM10	WEIGHT FRACTION OF TPM
7231	12115	chlorine	0.000073	0.000073	0.000073
7232	12115	chlorine	0.000443	0.000443	0.000443
7233	12115	chlorine	0.000178	0.000178	0.000178
7231	12114	copper	0.000031	0.000031	0.000031
7232	12114	copper	0.000168	0.000168	0.000168
7233	12114	copper	0.000152	0.000152	0.000152
7231	12132	manganese	0.000024	0.000024	0.000024
7232	12132	manganese	0.000149	0.000149	0.000149
7233	12132	manganese	0.000064	0.000064	0.000064
7231	12136	nickel	0.000023	0.000023	0.000023
7232	12136	nickel	0.000142	0.000142	0.000142
7233	12136	nickel	0.00007	0.00007	0.00007

Attachment C1: On-road Diesel Truck TAC emissions (Concrete Bagging)

2023 Freightliner Cascadia Truck

Input	Parameter	Units	Notes
# of trucks trips per day	110		
Facility Operation	6	days per week	
	52	weeks per year	
Engine max power	400	bhp	per email from Steve Delfino (8/17/2017 @ 8:14AM)
Engine average operating power while on faciltiy	200	bhp	per email from Steve Delfino (8/17/2017 @ 10:19AM)
Max truck operation per trip	15	min	per email from Roman Olmos (8/15/2017 @ 3:56PM)
Max # of trucks per hour	7	trucks	Updated to allow all trucks to pass through in one 16-hr day
PM Emission Standard	0.01	g/bhp-hr	
	0.004	lb/hr	per 2010 Model Year Onroad Emissions Standards (see below)
Total Annual PM Emissions	37.83	lb/yr	
Maximum Hourly PM Emissions	0.008	lb/hr	
HC Emission Standard	0.14	g/bhp-hr	
	0.062	lb/hr	
Total Annual HC Emissions	529.64	lb/yr	
Maximum Hourly HC Emissions	0.108	lb/hr	

TAC w/Acute and/or 8-hr REL	CAS	Wt frac of PM	ARB PM Profile	lb/yr	lb/hr
Chlorine	7782505	0.000443	7232	Not included, annual emissions from Diesel PM used to calculate cancer and chronic	3.42E-06
Copper	7440508	0.000168	7232		1.30E-06
Manganese	7439965	0.000149	7232		1.15E-06
Nickel	7440020	0.000142	7232		1.10E-06
TAC w/Acute and/or 8-hr REL	**CAS**	**Wt frac of HC**	**ARB Org Profile**	**lb/yr**	**lb/hr**
1,3-Butadiene	106990	0.0019	818	Not included, annual emissions from Diesel PM used to calculate cancer and chronic	2.05E-04
Methanol	67561	0.0003	818		3.24E-05
Formaldehyde	50000	0.14714	818		1.59E-02
Acetaldehyde	75070	0.07353	818		7.94E-03
Methyl ethyl ketone	78933	0.01476998	818		1.60E-03
Benzene	71432	0.02000998	818		2.16E-03
Toluene	108883	0.01473	818		1.59E-03
o-Xylene	95476	0.00335	818		3.62E-04
m-Xylene	108383	0.00611	818		6.60E-04
p-Xylene	106423	0.00095	818		1.03E-04
Styrene	100425	0.00058	818		6.27E-05

Constants:

1 lb = 453.592 grams

1 hr = 60 min

HHV_{Diesel} = 137,000 BTU/gallon

7,000 Btu/hp-hr was used to convert from lb/MMBtu to lb/hp-hr

Attachment C1: On-road Diesel Truck TAC emissions (Concrete Bagging)

Notes:

ARB PM Profile Number

7231	2023 HEAVY-DUTY DIESEL TRUCK-idle (2016 UPDATE)
7232	2023 HEAVY-DUTY DIESEL TRUCK-cruise (2016 UPDATE)
7233	2023 HEAVY-DUTY DIESEL TRUCK-transient (2016 UPDATE)

ARB ORG Profile Number

818 Farm equipment - diesel - light & heavy - (ems=actual weight)

https://www.arb.ca.gov/ei/speciate/speciate.htm

ARB PM profile for transient was used to conservatively represent truck operations within the facility boundaries.

EPA United States Environmental Protection Agency

Office of Transportation and Air Quality
EPA-420-B-16-018
March 2016

Heavy-Duty Highway Compression-Ignition Engines and Urban Buses: Exhaust Emission Standards

	Year	HC (g/bhp-hr)	NMH C (g/bhp-hr)	NMHC + NOx g/bhp-hr)	NOx (g/bhp-hr)	PM (g/bhp-hr)	CO (gbhp-hr)	Idle CO (percent exhaust gas flow)	Smoke [a] (Percentage)	Useful Life (hours/years/miles)	Warranty Period (years/miles)
Federal [b]	1974-78	-	-	16	-	-	40	-	20 / 15 / 50	-	-
	1979-84	1.5	-	10	-	-	25	-	20 / 15 / 50	-	-
	1985-87	1.3	-	-	10.7	-	15.5	-	20 / 15 / 50	LHDDE: - / 8 / 110,000 MHDDE: - / 8 / 185,000 HHDDE: - / 8 / 290,000	-
	1988-89	1.3 [d]	-	-	10.7	0.6	15.5	0.5 [c]	20 / 15 / 50	1990-97 and 1998+ for HC, CO, and PM: LHDDE: - / 8 / 110,000 MHDDE: - / 8 / 185,000 HHDDE: - / 8 / 290,000 1994+ urban buses for PM only: - / 10 / 290,000 1998+ for NOx: LHDDE: - / 10 / 110,000 MHDDE: - / 10 / 185,000 HHDDE: - / 10 / 290,000	5 / 100,000 [q]
	1990	1.3 [d]	-	-	6.0	0.6	15.5	0.5 [c]	20 / 15 / 50		
	1991-93	1.3	-	-	5.0 [ABT]	0.25 [ABT] 0.10 [e]	15.5	0.5 [c]	20 / 15 / 50		
	1994-97	1.3	-	-	5.0 [ABT]	0.1 [ABT] 0.07[f], 0.05 [g]	15.5	0.5 [c]	20 / 15 / 50		
	1998-2003	1.3	-	-	4.0 [ABT]	0.1 [ABT] 0.05 [g]	15.5	0.5 [c]	20 / 15 / 50		
	2004-2006 [h]	-	-	2.4 (or 2.5 with a limit of 0.5 on NMHC) [c] [ABT [i, j]]	-	0.1 0.05 [g]	15.5	0.5	20 / 15 / 50	For all pollutants: [p] LHDDE: - / 10 / 110,000 MHDDE: - / 10 / 185,000 HHDDE: 22,000 / 10 / 435,000	LHDDE: 5 / 50,000 All other HDDE: 5 / 100,000 [q]
	2007+ [h, k, l, m, n]	-	0.14 [c]	2.4 (or 2.5 with a limit of 0.5 on NMHC) [ABT]	0.2 [c]	0.01	15.5	0.5	20 / 15 / 50		

Organic Profile for diesel farm equipment

OG PROFILE NUMBE	OG PROFILE NAME	SAROAD	SPECIES	WEIGHT FRACTION	TOG/THC
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43218	1,3-butadiene	0.0019	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43301	methanol	0.0003	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43502	formaldehyde	0.14714	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43503	acetaldehyde	0.07353	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43552	methyl ethyl ketone {2-butanone}	0.01476998	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45201	benzene	0.02000998	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45202	toluene	0.01473	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45204	o-xylene	0.00335	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45205	m-xylene	0.00611	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45206	p-xylene	0.00095	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45220	styrene	0.00058	

PM Profile for Heavy Duty

PM PROFILE NUMBER	SAROAD	SPECIES	WEIGHT FRACTION OF PM2.5	WEIGHT FRACTION OF PM10	WEIGHT FRACTION OF TPM
7231	12115	chlorine	0.000073	0.000073	0.000073
7232	12115	chlorine	0.000443	0.000443	0.000443
7233	12115	chlorine	0.000178	0.000178	0.000178
7231	12114	copper	0.000031	0.000031	0.000031
7232	12114	copper	0.000168	0.000168	0.000168
7233	12114	copper	0.000152	0.000152	0.000152
7231	12132	manganese	0.000024	0.000024	0.000024
7232	12132	manganese	0.000149	0.000149	0.000149
7233	12132	manganese	0.000064	0.000064	0.000064
7231	12136	nickel	0.000023	0.000023	0.000023
7232	12136	nickel	0.000142	0.000142	0.000142
7233	12136	nickel	0.00007	0.00007	0.00007

Attachment C2: Off-road LPG Forklift TAC emissions

2023 LPG Toyota Forklift – Model 7FGU25

Input	Parameter	Units	Notes
# of forklifts operating per day	10	forkflits	
Facility Operation	6	days per week	
	52	weeks per year	
Engine power	53	bhp	based on model
Fuel consumption	4.05	gal/hour	calculated based on conversion using brake specific fuel consumption and HHV
LSI Engine Standard ($HC+NO_X$)	0.60	g/bhp-hr	ARB 2010 Standard (see below or CCR, title 13, section 2433)
	31.80	g/hr	Assuming 100% load
	17.29	lb/1,000 gallons	
Max forklift operation per day	14.4	hours	based on 90% operating time per 16 hour day (per email from Roman Olmos on 8/16/2017 @ 2:57PM)
Max # of forklifts per hour	4	forklifts	assumed 4 forklifts operating during the same hour
Annual fuel usage	182.17	1,000 gal	
Maximum hourly usage	0.016	1,000 gal	Assuming 1 hour max operation per forklift

TAC w/Acute, 8-hr REL, Chronic and/or Cancer PF	CAS	Weight Fraction[1]	EF[2] (lb/1,000 gal)	lb/yr	lb/hr
1,3-Butadiene	106990	0.000357	6.17E-03	1.12	1.00E-04
Acetaldehyde	75070	0.004466	7.72E-02	14.07	1.25E-03
Acrolein	107028	0.004924	8.51E-02	15.51	1.38E-03
Formaldehyde	50000	0.024523	4.24E-01	77.24	6.88E-03
Propylene	115071	0.017313	2.99E-01	54.53	4.86E-03

Constants:

1 lb = 453.592 grams

1 hr = 60 min

91,500 HHVPropane = BTU/gallon

7,000 Btu/hp-hr was used to convert from lb/MMBtu to lb/hp-hr

[1] Table 21, VOC toxic fractions for nonroad LPG engines, Speciation Profiles and Toxic Emission Factors for Non-road Engines, November 2015, EPA-420-R-15-019

Only those with an associated cancer or noncancer HI were included (see "OEHHA Risk Factors" tab)

[2] Assumed $HC+NO_X$ was 100% HC, and used corresponding weight fraction of TAC to calculate EF

Attachment C2: Off-road LPG Forklift TAC emissions

Table 21. VOC toxic fractions for nonroad LPG engines

Pollutant	Fraction
1,3-butadiene	0.000357
Acetaldehyde	0.004466
Acetylene	0.001189
Acrolein	0.004924
Ethane	0.05549
Ethylene	0.038902
Formaldehyde	0.024523
Methane	0.176432
N-butane	0.001402
Propane	0.658555
Propylene	0.017313
Unknown	0.016448

Exhaust Emission Standards
(grams per brake horsepower-hour)
[grams per kilowatt-hour](1)

Model Year	*Engine Displacement*	*Durability Period*	*HC + NOx*	*Carbon Monoxide*
2002 and subsequent	≤1.0 liter	1,000 hours or 2 years	9.0 [12.0]	410 [549]
2001 - 2003(2),(3)	> 1.0 liter	N/A	3.0 [4.0]	37.0 [49.6]
2004 - 2006(4)	> 1.0 liter	3500 hours or 5 years	3.0 [4.0]	37.0 [49.6]
2007 ~~and subsequent~~ - 2009	> 1.0 liter	5000 hours or 7 years	~~3.0~~ 2.0 [4.0] [2.7]	~~37.0~~ 3.3 [49.6] [4.4]
2010 and subsequent(5),(6)	> 1.0 liter	5000 hours or 7 years	0.6 [0.8]	15.4 [20.6]

Note: (1) For 2006 and previous model years, s~~S~~tandards in grams per kilowatt-hour are given only as a reference. For 2007 and subsequent model years, p~~P~~ollutant emissions reported to ARB by manufacturers must be in grams per kilowatt-hour~~brake horsepower-hour~~.
(2) Small volume manufacturers are not required to comply with these emission standards.
(3) Manufacturers must show that at least 25 percent of its California engine sales comply with the standards in 2001, 50 percent in 2002, and 75 percent in 2003.

Attachment C3: Off-road Diesel Loader TAC emissions

2023 Komatsu WA270-8 (Tier 4 Final)

Input	Parameter	Units	Notes
# of loaders operating per day	1	loader	
Facility Operation	6	days per week	
	52	weeks per year	
Engine power	153	bhp	per specifications from Komatsu
Max loader operation per day	4	hours	based on 15 minutes of operation per hour, 16 hours per day
Max # of loaders per hour	1	loader	
Max continuous operation per hour	15	min	
PM Emission Standard	0.0149	g/bhp-hr	per E.O. U-R-005-0496
	0.01	lb/hr	Assuming 100% load
Total Annual PM Emissions	0.39	lb/yr	
Maximum Hourly PM Emissions	1.26E-03	lb/hr	
HC Emission Standard	0.142	g/bhp-hr	per E.O. U-R-005-0496
	0.048	lb/hr	Assuming 100% load
Total Annual HC Emissions	3.73	lb/yr	
Maximum Hourly HC Emissions	0.012	lb/hr	

TAC w/Acute and/or 8-hr REL	CAS	Wt frac of PM	ARB PM Profile	lb/yr	lb/hr
Chlorine	7782505	0.000029	6239	Not included, annual emissions from Diesel PM used to calculate cancer and chronic	1.46E-07
Copper	7440508	0.000094	6239		4.73E-07
Manganese	7439965	0.000047	6239		2.36E-07
Nickel	7440020	0.000009	6239		4.53E-08
TAC w/Acute and/or 8-hr REL	**CAS**	**Wt frac of HC**	**ARB Org Profile**	**lb/yr**	**lb/hr**
1,3-Butadiene	106990	0.0019	818	Not included, annual emissions from Diesel PM used to calculate cancer and chronic	9.08E-05
Methanol	67561	0.0003	818		1.43E-05
Formaldehyde	50000	0.14714	818		7.03E-03
Acetaldehyde	75070	0.07353	818		3.51E-03
Methyl ethyl ketone	78933	0.01476998	818		7.06E-04
Benzene	71432	0.02000998	818		9.56E-04
Toluene	108883	0.01473	818		7.04E-04
o-Xylene	95476	0.00335	818		1.60E-04
m-Xylene	108383	0.00611	818		2.92E-04
p-Xylene	106423	0.00095	818		4.54E-05
Styrene	100425	0.00058	818		2.77E-05

Notes:

Density of Diesel 7.05 lb/gal

1 kW = 1.34102 bhp

Source

EPA, AP-42, APPENDIX A, MISCELLANEOUS DATA AND CONVERSION FACTORS

Attachment C3: Off-road Diesel Loader TAC emissions

Notes:

ARB PM Profile Number

6239 2023 OFFROAD DIESEL VEHL EXST

ARB ORG Profile Number

818 Farm equipment - diesel - light & heavy - (ems=actual weight)

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2021	MKLXL06.7AAP	6.7	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Turbocharger, Charge Air Cooler, Oxidation Catalyst, Exhaust Gas Recirculation, Electronic Direct Injection, Electronic Control Module, Ammonia Oxidation Catalyst, Selective Catalyst Reduction-Urea, Periodic Trap Oxidation Catalyst	Loader, Dozer

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
75 ≤ kW < 130	Tier 4 Final	STD	0.19	0.40	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.01	0.19	--	0.2	0.001	--	--	--

Organic Profile for diesel farm equipment

OG PROFILE NUMBE	OG PROFILE NAME	SAROAD	SPECIES	WEIGHT FRACTION	TOG/THC
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43218	1,3-butadiene	0.0019	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43301	methanol	0.0003	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43502	formaldehyde	0.14714	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43503	acetaldehyde	0.07353	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	43552	methyl ethyl ketone {2-butanone}	0.01476998	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45201	benzene	0.02000998	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45202	toluene	0.01473	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45204	o-xylene	0.00335	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45205	m-xylene	0.00611	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45206	p-xylene	0.00095	
818	Farm equipment - diesel - light & heavy - (ems=actual weigl	45220	styrene	0.00058	

PM Profile for Off Road Diesel Vehicle

PM PROFILE NUMBER	SAROAD	SPECIES	WEIGHT FRACTION OF PM2.5	WEIGHT FRACTION OF PM10	WEIGHT FRACTION OF TPM
6239	12114	copper	0.000094	0.000094	0.000094
6239	12115	chlorine	0.000029	0.000029	0.000029
6239	12132	manganese	0.000047	0.000047	0.000047
6239	12136	nickel	0.000009	0.000009	0.000009

ATTACHMENT D – AERMOD Output Files

```
**AERMOD INPUT FILE CREATED BY HARP VERSION 22118
**DATE CREATED: 6/24/2022 4:52:58 PM
**
CO STARTING
   TITLEONE  Quikrete Palmdate Facility
   TITLETWO
   MODELOPT DFAULT CONC
   AVERTIME 1 PERIOD
   POLLUTID OTHER
   RUNORNOT RUN
   ERRORFIL "C:\HARP2\Quikrete_2022.02.28\QUIKRETE\QUIKRETE_AERMOD.ERR"
CO FINISHED
**
**SOURCES
SO STARTING
**SOURCES LOCATIONS
   LOCATION S0001 VOLUME  408837  3826584  807.64
   LOCATION S0002 VOLUME  408869  3826727  806.49
**SOURCES PARAMETERS
   SRCPARAM S0001 1 3.048037 31.89804  1.417691
   SRCPARAM S0002 1 3.048037 31.89804  1.417691
   SRCGROUP S0001 S0001
   SRCGROUP S0002 S0002
SO FINISHED
**
**RECEPTORS
RE STARTING
   INCLUDED "C:\HARP2\Quikrete_2022.02.28\QUIKRETE\QUIKRETE_AERMAP.REC"
RE FINISHED
**
**MET PATHWAY
ME STARTING
ME SURFFILE "C:\HARP2\Quikrete_2022.02.28\723820.SFC"
ME PROFFILE "C:\HARP2\Quikrete_2022.02.28\723820.PFL"
ME SURFDATA 23182 2009
ME UAIRDATA 3190 2009
ME SITEDATA 0 2009
ME PROFBASE 769.2
ME FINISHED
**
**OUTPUT PATHWAY
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   PLOTFILE 1 S0001 1ST "C:\HARP2\Quikrete_2022.02.28\QUIKRETE\plt\MAX1HRS0001.PLT" 31
   PLOTFILE 1 S0002 1ST "C:\HARP2\Quikrete_2022.02.28\QUIKRETE\plt\MAX1HRS0002.PLT" 32
   PLOTFILE PERIOD S0001 "C:\HARP2\Quikrete_2022.02.28\QUIKRETE\plt\PERIODS0001.PLT" 33
   PLOTFILE PERIOD S0002 "C:\HARP2\Quikrete_2022.02.28\QUIKRETE\plt\PERIODS0002.PLT" 34
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
```

```
 A Total of            1 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 CO W200       6       TITLES: Missing Parameter(s). No Options Specified For         TITLETWO

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

♠ *** AERMOD - VERSION 21112  ***   ***  Quikrete Palmdate Facility                                  ***
06/24/22
 *** AERMET - VERSION  14134 ***   ***                                                            ***
16:53:08
                                                                                                    PAGE
1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  OTHER

 **Model Calculates  1 Short Term Average(s) of:   1-HR
    and Calculates PERIOD Averages

 **This Run Includes:      2 Source(s);       2 Source Group(s); and      61 Receptor(s)
```

```
               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:      2 VOLUME source(s)
                and:      0 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 RLINE/RLINEXT source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with a total of     0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   769.20 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                           ;  Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   C:\HARP2\Quikrete_2022.02.28\QUIKRETE\QUIKRETE_AERMOD.ERR

 *** AERMOD - VERSION 21112  ***   ***  Quikrete Palmdate Facility                                    ***
06/24/22
 *** AERMET - VERSION  14134 ***   ***                                                               ***
16:53:08
                                                                                                      PAGE
2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL


                                          *** VOLUME SOURCE DATA ***

             NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.   URBAN  EMISSION RATE
   SOURCE     PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ     SOURCE  SCALAR VARY
     ID       CATS.               (METERS) (METERS) (METERS) (METERS) (METERS) (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 S0001           0   0.10000E+01  408837.0 3826584.0   807.6     3.05    31.90     1.42     NO
 S0002           0   0.10000E+01  408869.0 3826727.0   806.5     3.05    31.90     1.42     NO
 *** AERMOD - VERSION 21112  ***   ***  Quikrete Palmdate Facility                                    ***
06/24/22
```

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
S0001	S0001 ,
S0002	S0002 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(408718.0,	3826402.0,	809.5,	809.5,	0.0);	(408765.0,	3826401.0,	809.5,	809.5,	0.0);
(408669.0,	3826653.0,	806.9,	806.9,	0.0);	(408755.7,	3826481.0,	808.6,	808.6,	0.0);
(408756.0,	3826506.0,	808.4,	808.4,	0.0);	(408756.3,	3826531.0,	808.2,	808.2,	0.0);
(408756.6,	3826556.0,	807.9,	807.9,	0.0);	(408756.9,	3826581.0,	807.7,	807.7,	0.0);
(408757.2,	3826606.0,	807.4,	807.4,	0.0);	(408757.5,	3826631.0,	807.2,	807.2,	0.0);
(408757.8,	3826656.0,	806.9,	806.9,	0.0);	(408758.1,	3826681.0,	806.6,	806.6,	0.0);
(408758.3,	3826706.0,	806.4,	806.4,	0.0);	(408758.6,	3826731.0,	806.2,	806.2,	0.0);
(408758.9,	3826756.0,	806.2,	806.2,	0.0);	(408759.2,	3826781.0,	805.9,	805.9,	0.0);
(408759.5,	3826806.0,	805.7,	805.7,	0.0);	(408759.8,	3826831.0,	805.4,	805.4,	0.0);
(408760.1,	3826856.0,	805.2,	805.2,	0.0);	(408760.3,	3826874.0,	805.0,	805.0,	0.0);
(408785.3,	3826874.0,	805.0,	805.0,	0.0);	(408810.3,	3826874.0,	805.0,	805.0,	0.0);
(408835.3,	3826874.0,	805.0,	805.0,	0.0);	(408860.3,	3826873.0,	805.0,	805.0,	0.0);
(408885.3,	3826873.0,	805.0,	805.0,	0.0);	(408910.3,	3826873.0,	805.0,	805.0,	0.0);
(408935.3,	3826873.0,	805.0,	805.0,	0.0);	(408960.3,	3826873.0,	805.0,	805.0,	0.0);

```
( 408985.3, 3826873.0,     805.0,     805.0,       0.0);         ( 409010.3, 3826873.0,     805.0,     805.0,       0.0);
( 409035.3, 3826873.0,     805.0,     805.0,       0.0);         ( 409060.3, 3826872.0,     805.0,     805.0,       0.0);
( 409062.8, 3826872.0,     805.0,     805.0,       0.0);         ( 409062.4, 3826847.0,     805.3,     805.3,       0.0);
( 409062.1, 3826822.0,     805.5,     805.5,       0.0);         ( 409061.8, 3826797.0,     805.8,     805.8,       0.0);
( 409061.4, 3826772.0,     806.0,     806.0,       0.0);         ( 409061.1, 3826747.0,     806.3,     806.3,       0.0);
( 409060.7, 3826722.0,     806.5,     806.5,       0.0);         ( 409060.4, 3826697.0,     806.8,     806.8,       0.0);
( 409060.0, 3826672.0,     807.0,     807.0,       0.0);         ( 409059.7, 3826647.0,     807.3,     807.3,       0.0);
( 409059.4, 3826622.0,     807.6,     807.6,       0.0);         ( 409059.0, 3826597.0,     807.8,     807.8,       0.0);
( 409058.7, 3826572.0,     808.1,     808.1,       0.0);         ( 409058.3, 3826547.0,     808.3,     808.3,       0.0);
( 409058.0, 3826522.0,     808.6,     808.6,       0.0);         ( 409057.6, 3826498.0,     808.8,     808.8,       0.0);
( 409057.4, 3826479.0,     808.9,     808.9,       0.0);         ( 409032.4, 3826479.0,     808.9,     808.9,       0.0);
( 409007.4, 3826480.0,     808.9,     808.9,       0.0);         ( 408982.4, 3826480.0,     808.8,     808.8,       0.0);
( 408957.4, 3826480.0,     808.7,     808.7,       0.0);         ( 408932.4, 3826480.0,     808.7,     808.7,       0.0);
( 408907.4, 3826480.0,     808.7,     808.7,       0.0);         ( 408882.4, 3826480.0,     808.7,     808.7,       0.0);
( 408857.4, 3826481.0,     808.7,     808.7,       0.0);         ( 408832.4, 3826481.0,     808.7,     808.7,       0.0);
( 408807.4, 3826481.0,     808.7,     808.7,       0.0);         ( 408782.4, 3826481.0,     808.7,     808.7,       0.0);
( 408757.4, 3826481.0,     808.7,     808.7,       0.0);
```


*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\HARP2\Quikrete_2022.02.28\723820.SFC Met Version: 14134
Profile file: C:\HARP2\Quikrete_2022.02.28\723820.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 23182 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN
Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-12.1	0.121	-9.000	-9.000	-999.	100.	12.0	0.20	1.09	1.00	2.36	191.	10.0	273.8	2.0
09	01	01	1	02	-7.1	0.093	-9.000	-9.000	-999.	69.	9.5	0.23	1.09	1.00	1.76	258.	10.0	274.2	2.0
09	01	01	1	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.24	1.09	1.00	0.00	0.	10.0	273.1	2.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.24	1.09	1.00	0.00	0.	10.0	272.5	2.0
09	01	01	1	05	-23.1	0.215	-9.000	-9.000	-999.	239.	35.6	0.20	1.09	1.00	2.86	203.	10.0	272.0	2.0
09	01	01	1	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.24	1.09	1.00	0.00	0.	10.0	272.5	2.0
09	01	01	1	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.24	1.09	1.00	0.00	0.	10.0	270.9	2.0
09	01	01	1	08	-13.3	0.150	-9.000	-9.000	-999.	139.	21.0	0.20	1.09	0.56	2.36	193.	10.0	273.1	2.0
09	01	01	1	09	21.6	-9.000	-9.000	-9.000	55.	-999.	-99999.0	0.24	1.09	0.32	0.00	0.	10.0	278.1	2.0
09	01	01	1	10	72.0	0.261	0.645	0.009	124.	319.	-20.4	0.33	1.09	0.24	1.76	331.	10.0	280.9	2.0
09	01	01	1	11	107.2	0.271	0.877	0.009	209.	338.	-15.4	0.33	1.09	0.21	1.76	324.	10.0	282.5	2.0
09	01	01	1	12	125.0	0.339	1.036	0.007	294.	473.	-25.8	0.33	1.09	0.21	2.36	336.	10.0	284.9	2.0
09	01	01	1	13	124.0	-9.000	-9.000	-9.000	404.	-999.	-99999.0	0.24	1.09	0.21	0.00	0.	10.0	285.9	2.0
09	01	01	1	14	104.7	-9.000	-9.000	-9.000	478.	-999.	-99999.0	0.24	1.09	0.22	0.00	0.	10.0	287.0	2.0
09	01	01	1	15	67.6	-9.000	-9.000	-9.000	564.	-999.	-99999.0	0.24	1.09	0.25	0.00	0.	10.0	287.5	2.0
09	01	01	1	16	16.4	-9.000	-9.000	-9.000	586.	-999.	-99999.0	0.24	1.09	0.34	0.00	0.	10.0	288.1	2.0
09	01	01	1	17	-6.1	0.088	-9.000	-9.000	-999.	62.	9.2	0.18	1.09	0.62	1.76	111.	10.0	284.2	2.0
09	01	01	1	18	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.24	1.09	1.00	0.00	0.	10.0	280.9	2.0
09	01	01	1	19	-30.0	0.287	-9.000	-9.000	-999.	369.	65.1	0.20	1.09	1.00	3.36	214.	10.0	279.2	2.0
09	01	01	1	20	-30.0	0.287	-9.000	-9.000	-999.	368.	64.7	0.20	1.09	1.00	3.36	207.	10.0	278.1	2.0
09	01	01	1	21	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.24	1.09	1.00	0.00	0.	10.0	277.5	2.0
09	01	01	1	22	-6.3	0.087	-9.000	-9.000	-999.	62.	8.6	0.18	1.09	1.00	1.76	152.	10.0	276.4	2.0
09	01	01	1	23	-22.9	0.217	-9.000	-9.000	-999.	242.	36.7	0.20	1.09	1.00	2.86	190.	10.0	275.9	2.0
09	01	01	1	24	-36.7	0.347	-9.000	-9.000	-999.	491.	94.0	0.20	1.09	1.00	3.86	180.	10.0	275.4	2.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
09	01	01	01	10.0	1	191.	2.36	273.8	99.0	-99.00	-99.00

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: S0001 ***
INCLUDING SOURCE(S): S0001 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
408718.00	3826402.00	5.50513	408765.00	3826401.00	6.70090
408669.00	3826653.00	10.81488	408755.70	3826481.00	14.31698
408756.00	3826506.00	19.71557	408756.30	3826531.00	27.59958
408756.60	3826556.00	37.09534	408756.90	3826581.00	44.47755
408757.20	3826606.00	45.80808	408757.50	3826631.00	40.86289
408757.80	3826656.00	33.09721	408758.10	3826681.00	26.46727
408758.30	3826706.00	21.62043	408758.60	3826731.00	18.16736
408758.90	3826756.00	15.68926	408759.20	3826781.00	13.67275
408759.50	3826806.00	12.07240	408759.80	3826831.00	10.76467
408760.10	3826856.00	9.67724	408760.30	3826874.00	8.99820
408785.30	3826874.00	10.89844	408810.30	3826874.00	12.89170
408835.30	3826874.00	14.82377	408860.30	3826873.00	16.69805
408885.30	3826873.00	18.20605	408910.30	3826873.00	19.24014
408935.30	3826873.00	19.58832	408960.30	3826873.00	19.17838
408985.30	3826873.00	18.13965	409010.30	3826873.00	16.71231
409035.30	3826873.00	15.12098	409060.30	3826872.00	13.55092
409062.80	3826872.00	13.39309	409062.40	3826847.00	14.16326
409062.10	3826822.00	14.90340	409061.80	3826797.00	15.61957

409061.40	3826772.00	16.33868	409061.10	3826747.00	17.05329
409060.70	3826722.00	17.76602	409060.40	3826697.00	18.39809
409060.00	3826672.00	18.87733	409059.70	3826647.00	19.09235
409059.40	3826622.00	19.03464	409059.00	3826597.00	18.72324
409058.70	3826572.00	18.17667	409058.30	3826547.00	17.38038
409058.00	3826522.00	16.18935	409057.60	3826498.00	14.63864
409057.40	3826479.00	13.16939	409032.40	3826479.00	14.80910
409007.40	3826480.00	16.77779	408982.40	3826480.00	18.82715
408957.40	3826480.00	21.03162	408932.40	3826480.00	23.29233
408907.40	3826480.00	25.38415	408882.40	3826480.00	26.81680
408857.40	3826481.00	27.39941	408832.40	3826481.00	25.42072
408807.40	3826481.00	21.87177	408782.40	3826481.00	17.97568
408757.40	3826481.00	14.52559			

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: S0002 ***
INCLUDING SOURCE(S): S0002 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
408718.00	3826402.00	2.21126	408765.00	3826401.00	2.44520
408669.00	3826653.00	6.92569	408755.70	3826481.00	3.69401
408756.00	3826506.00	4.32597	408756.30	3826531.00	5.13082
408756.60	3826556.00	6.17053	408756.90	3826581.00	7.53831
408757.20	3826606.00	9.38257	408757.50	3826631.00	11.90270
408757.80	3826656.00	15.23644	408758.10	3826681.00	19.15822

408758.30	3826706.00	22.69593	408758.60	3826731.00	24.60024
408758.90	3826756.00	24.47008	408759.20	3826781.00	22.35243
408759.50	3826806.00	19.48813	408759.80	3826831.00	16.69073
408760.10	3826856.00	14.31212	408760.30	3826874.00	12.88799
408785.30	3826874.00	16.98099	408810.30	3826874.00	23.59988
408835.30	3826874.00	33.12030	408860.30	3826873.00	44.68755
408885.30	3826873.00	54.19742	408910.30	3826873.00	58.54698
408935.30	3826873.00	56.59209	408960.30	3826873.00	50.02415
408985.30	3826873.00	41.70631	409010.30	3826873.00	33.81912
409035.30	3826873.00	27.30533	409060.30	3826872.00	22.30402
409062.80	3826872.00	21.86987	409062.40	3826847.00	22.95391
409062.10	3826822.00	23.88687	409061.80	3826797.00	24.53059
409061.40	3826772.00	24.78022	409061.10	3826747.00	24.54666
409060.70	3826722.00	23.85815	409060.40	3826697.00	22.57148
409060.00	3826672.00	20.66192	409059.70	3826647.00	18.09652
409059.40	3826622.00	15.16943	409059.00	3826597.00	12.31688
409058.70	3826572.00	9.86761	409058.30	3826547.00	7.94793
409058.00	3826522.00	6.49965	409057.60	3826498.00	5.44801
409057.40	3826479.00	4.78853	409032.40	3826479.00	4.89391
409007.40	3826480.00	5.01084	408982.40	3826480.00	5.06769
408957.40	3826480.00	5.08644	408932.40	3826480.00	5.06328
408907.40	3826480.00	5.00133	408882.40	3826480.00	4.89686
408857.40	3826481.00	4.77573	408832.40	3826481.00	4.55928
408807.40	3826481.00	4.29380	408782.40	3826481.00	4.00378
408757.40	3826481.00	3.71308			

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: S0001 ***
INCLUDING SOURCE(S): S0001 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
408718.00	3826402.00	848.65067	(09022205)	408765.00	3826401.00	931.93990	(11120502)
408669.00	3826653.00	1182.15314	(09010117)	408755.70	3826481.00	1295.32723	(13123117)
408756.00	3826506.00	1483.91779	(13010201)	408756.30	3826531.00	1818.42581	(11010204)
408756.60	3826556.00	1944.81431	(13120419)	408756.90	3826581.00	1995.21646	(11022204)
408757.20	3826606.00	1912.24196	(10123119)	408757.50	3826631.00	1811.00765	(09120902)
408757.80	3826656.00	1657.70597	(12013022)	408758.10	3826681.00	1511.18389	(12011504)
408758.30	3826706.00	1367.96050	(10122723)	408758.60	3826731.00	1237.27518	(12122518)
408758.90	3826756.00	1134.63917	(12021006)	408759.20	3826781.00	1032.29008	(09122604)
408759.50	3826806.00	941.12754	(12122206)	408759.80	3826831.00	860.37551	(09010702)
408760.10	3826856.00	790.65466	(13120607)	408760.30	3826874.00	743.93750	(11122419)
408785.30	3826874.00	755.96464	(12010301)	408810.30	3826874.00	762.73047	(10122805)
408835.30	3826874.00	755.52305	(09120403)	408860.30	3826873.00	731.65494	(09010502)
408885.30	3826873.00	725.22439	(11020307)	408910.30	3826873.00	713.26968	(09122703)
408935.30	3826873.00	698.15315	(09011802)	408960.30	3826873.00	678.51439	(11121318)
408985.30	3826873.00	659.08464	(14010206)	409010.30	3826873.00	636.62362	(11120904)
409035.30	3826873.00	612.03716	(11012605)	409060.30	3826872.00	589.96972	(11122103)
409062.80	3826872.00	587.67917	(11122103)	409062.40	3826847.00	623.30156	(13021407)
409062.10	3826822.00	663.14073	(09120905)	409061.80	3826797.00	705.82060	(13123003)
409061.40	3826772.00	750.95927	(12020603)	409061.10	3826747.00	793.13161	(10022524)
409060.70	3826722.00	840.87099	(13121607)	409060.40	3826697.00	837.14206	(12011804)
409060.00	3826672.00	874.59738	(13021223)	409059.70	3826647.00	907.56151	(09010704)
409059.40	3826622.00	937.32842	(12122021)	409059.00	3826597.00	949.55072	(09122004)

409058.70	3826572.00	952.00549	(13122202)	409058.30	3826547.00	941.24348	(10010404)
409058.00	3826522.00	919.87915	(13012205)	409057.60	3826498.00	895.71597	(11010101)
409057.40	3826479.00	867.22829	(13010901)	409032.40	3826479.00	948.35001	(13011507)
409007.40	3826480.00	1023.44479	(13011507)	408982.40	3826480.00	1014.19980	(13011507)
408957.40	3826480.00	1083.31707	(12122005)	408932.40	3826480.00	1194.70301	(11021005)
408907.40	3826480.00	1313.75232	(09122723)	408882.40	3826480.00	1418.76533	(13122907)
408857.40	3826481.00	1487.71627	(13123121)	408832.40	3826481.00	1570.15331	(10020320)
408807.40	3826481.00	1526.00162	(13012924)	408782.40	3826481.00	1435.77248	(11022724)
408757.40	3826481.00	1298.50838	(09022205)				

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: S0002 ***
INCLUDING SOURCE(S): S0002 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
408718.00	3826402.00	496.82441	(11120502)	408765.00	3826401.00	533.74759	(13012924)
408669.00	3826653.00	1059.75549	(13120419)	408755.70	3826481.00	678.62367	(11120502)
408756.00	3826506.00	742.14793	(11022724)	408756.30	3826531.00	801.28769	(09122107)
408756.60	3826556.00	902.21870	(09022205)	408756.90	3826581.00	962.80848	(13123117)
408757.20	3826606.00	1092.99287	(11011022)	408757.50	3826631.00	1205.54375	(10022519)
408757.80	3826656.00	1528.03925	(11010204)	408758.10	3826681.00	1632.64049	(11122418)
408758.30	3826706.00	1697.37769	(13011218)	408758.60	3826731.00	1677.02586	(13122421)
408758.90	3826756.00	1639.14476	(10123119)	408759.20	3826781.00	1568.94604	(10123120)
408759.50	3826806.00	1470.84734	(10120704)	408759.80	3826831.00	1347.13545	(13020702)
408760.10	3826856.00	1239.36407	(12011504)	408760.30	3826874.00	1158.92733	(10120320)

408785.30	3826874.00	1224.17545	(12022606)	408810.30	3826874.00	1277.22960	(09122604)
408835.30	3826874.00	1317.85910	(11122407)	408860.30	3826873.00	1339.53590	(11012803)
408885.30	3826873.00	1298.39628	(12122807)	408910.30	3826873.00	1270.87585	(12010201)
408935.30	3826873.00	1225.07587	(11122023)	408960.30	3826873.00	1167.79892	(09011405)
408985.30	3826873.00	1101.11170	(13122624)	409010.30	3826873.00	1032.98015	(09120905)
409035.30	3826873.00	964.41291	(12122101)	409060.30	3826872.00	901.38404	(13010907)
409062.80	3826872.00	894.94316	(13010907)	409062.40	3826847.00	950.05239	(09121822)
409062.10	3826822.00	953.39824	(11011401)	409061.80	3826797.00	1004.19570	(13121106)
409061.40	3826772.00	1042.82795	(13122522)	409061.10	3826747.00	1071.74427	(12010103)
409060.70	3826722.00	1083.42581	(12011723)	409060.40	3826697.00	1074.39920	(10010404)
409060.00	3826672.00	1047.83340	(09022721)	409059.70	3826647.00	1012.87884	(11120901)
409059.40	3826622.00	969.34488	(13011507)	409059.00	3826597.00	816.05371	(13011507)
409058.70	3826572.00	720.52667	(09011602)	409058.30	3826547.00	675.86177	(13121006)
409058.00	3826522.00	625.26180	(12022323)	409057.60	3826498.00	588.76549	(12020307)
409057.40	3826479.00	552.69016	(10120620)	409032.40	3826479.00	587.95720	(09122723)
409007.40	3826480.00	613.85653	(09012902)	408982.40	3826480.00	642.28598	(09011121)
408957.40	3826480.00	669.19728	(12012505)	408932.40	3826480.00	689.15700	(12020404)
408907.40	3826480.00	700.87474	(11011502)	408882.40	3826480.00	697.43856	(13011821)
408857.40	3826481.00	751.98212	(10020320)	408832.40	3826481.00	747.08146	(13121403)
408807.40	3826481.00	703.95346	(10021507)	408782.40	3826481.00	707.08612	(13012924)
408757.40	3826481.00	683.66659	(11120502)				

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE SUMMARY OF MAXIMUM PERIOD (43872 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

NETWORK

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
S0001	1ST HIGHEST VALUE IS	45.80808 AT (408757.20, 3826606.00, 807.42, 807.42, 0.00)		DC	
	2ND HIGHEST VALUE IS	44.47755 AT (408756.90, 3826581.00, 807.67, 807.67, 0.00)		DC	
	3RD HIGHEST VALUE IS	40.86289 AT (408757.50, 3826631.00, 807.16, 807.16, 0.00)		DC	
	4TH HIGHEST VALUE IS	37.09534 AT (408756.60, 3826556.00, 807.90, 807.90, 0.00)		DC	
	5TH HIGHEST VALUE IS	33.09721 AT (408757.80, 3826656.00, 806.91, 806.91, 0.00)		DC	
	6TH HIGHEST VALUE IS	27.59958 AT (408756.30, 3826531.00, 808.16, 808.16, 0.00)		DC	
	7TH HIGHEST VALUE IS	27.39941 AT (408857.40, 3826481.00, 808.69, 808.69, 0.00)		DC	
	8TH HIGHEST VALUE IS	26.81680 AT (408882.40, 3826480.00, 808.70, 808.70, 0.00)		DC	
	9TH HIGHEST VALUE IS	26.46727 AT (408758.10, 3826681.00, 806.65, 806.65, 0.00)		DC	
	10TH HIGHEST VALUE IS	25.42072 AT (408832.40, 3826481.00, 808.69, 808.69, 0.00)		DC	
S0002	1ST HIGHEST VALUE IS	58.54698 AT (408910.30, 3826873.00, 805.01, 805.01, 0.00)		DC	
	2ND HIGHEST VALUE IS	56.59209 AT (408935.30, 3826873.00, 805.01, 805.01, 0.00)		DC	
	3RD HIGHEST VALUE IS	54.19742 AT (408885.30, 3826873.00, 805.01, 805.01, 0.00)		DC	
	4TH HIGHEST VALUE IS	50.02415 AT (408960.30, 3826873.00, 805.01, 805.01, 0.00)		DC	
	5TH HIGHEST VALUE IS	44.68755 AT (408860.30, 3826873.00, 805.01, 805.01, 0.00)		DC	
	6TH HIGHEST VALUE IS	41.70631 AT (408985.30, 3826873.00, 805.01, 805.01, 0.00)		DC	
	7TH HIGHEST VALUE IS	33.81912 AT (409010.30, 3826873.00, 805.01, 805.01, 0.00)		DC	
	8TH HIGHEST VALUE IS	33.12030 AT (408835.30, 3826874.00, 805.00, 805.00, 0.00)		DC	
	9TH HIGHEST VALUE IS	27.30533 AT (409035.30, 3826873.00, 805.01, 805.01, 0.00)		DC	
	10TH HIGHEST VALUE IS	24.78022 AT (409061.40, 3826772.00, 806.03, 806.03, 0.00)		DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

NETWORK GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
S0001	HIGH 1ST HIGH VALUE IS	1995.21646	ON 11022204: AT (408756.90, 3826581.00, 807.67, 807.67, 0.00)		DC	
S0002	HIGH 1ST HIGH VALUE IS	1697.37769	ON 13011218: AT (408758.30, 3826706.00, 806.40, 806.40, 0.00)		DC	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   1 Warning Message(s)
A Total of   8598 Informational Message(s)

A Total of   43872 Hours Were Processed

A Total of   6746 Calm Hours Identified

A Total of   1852 Missing Hours Identified (4.22 Percent)

   ******** FATAL ERROR MESSAGES ********
              *** NONE ***

   ********   WARNING MESSAGES   ********
CO W200   6   TITLES: Missing Parameter(s). No Options Specified For   TITLETWO

   ****
   *** AERMOD Finishes Successfully ***
   ****

ATTACHMENT E – Risk Analysis Output Files

HARP Project Summary Report 7/8/2022 1:32:33 PM

PROJECT INFORMATION
HARP Version: 22118
Project Name: QUIKRETE
Project Output Directory: C:\HARP2\Quikrete_2022.02.28\QUIKRETE
HARP Database: C:\HARP2\Quikrete_2022.02.28\Quikrete_Palmdale_2023.mdb

FACILITY INFORMATION
Origin
X (m):408912.4
Y (m):3826691
Zone:11
No. of Sources:2
No. of Buildings:0

EMISSION INVENTORY
No. of Pollutants:53
No. of Background Pollutants:0

Emissions

ScrID	StkID	ProID	PolID	PolAbbrev	Multi	Annual Ems (lbs/yr)	MaxHr (lbs/hr)	Ems	MWAF
S0001	1	1	106990	1,3-Butadiene	1	0		9.08025388137467E-05	1
S0001	1	1	106990	1,3-Butadiene	1	0		0.000102625266759555	1
S0001	1	1	106990	1,3-Butadiene	1	1.12446783188416		0.000100112876770313	1
S0001	1	1	75070	Acetaldehyde	1	0		0.003514058252092	1
S0001	1	1	75070	Acetaldehyde	1	0		0.00397159782359477	1
S0001	1	1	75070	Acetaldehyde	1	14.0668720929822		0.00125239245842078	1
S0001	1	1	107028	Acrolein	1	15.5094666784247		0.00138082858604208	1
S0001	1	1	71432	Benzene	1	0		0.00108080501860703	1
S0001	1	1	71432	Benzene	1	0		0.00095629315032226	1
S0001	1	1	7782505	Chlorine	1	0		1.4588773549023E-07	1
S0001	1	1	7782505	Chlorine	1	0			

1.70913508174747E-06 1
S0001 1 1 7440508 Copper 1 0
4.72877487451091E-07 1
S0001 1 1 7440508 Copper 1 0
6.48159579534031E-07 1
S0001 1 1 9901 DieselExhPM 1 22.3548916206635
0.00385809273532161 1
S0001 1 1 9901 DieselExhPM 1 0.392387702353033
0.00125765289215716 1
S0001 1 1 50000 Formaldehyde 1 0
0.00794751671105311 1
S0001 1 1 50000 Formaldehyde 1 77.2418057179139
0.00687694139226441 1
S0001 1 1 50000 Formaldehyde 1 0
0.00703193976897615 1
S0001 1 1 7439965 Manganese 1 0
2.36438743725545E-07 1
S0001 1 1 7439965 Manganese 1 0
5.7485581756292E-07 1
S0001 1 1 78933 MEK 1 0
0.000705869306435928 1
S0001 1 1 78933 MEK 1 0
0.000797775335543837 1
S0001 1 1 67561 Methanol 1 0
1.62039894883508E-05 1
S0001 1 1 67561 Methanol 1 0
1.43372429705916E-05 1
S0001 1 1 108383 m-Xylene 1 0
0.000330021252579411 1
S0001 1 1 108383 m-Xylene 1 0
0.000292001848501049 1
S0001 1 1 7440020 Nickel 1 0
5.47849168415669E-07 1
S0001 1 1 7440020 Nickel 1 0
4.52755041176576E-08 1
S0001 1 1 95476 o-Xylene 1 0
0.000180944549286584 1
S0001 1 1 95476 o-Xylene 1 0
0.000160099213171606 1
S0001 1 1 115071 Propylene 1 54.531965191626
0.00485505388102083 1
S0001 1 1 106423 p-Xylene 1 0
4.54012694068733E-05 1
S0001 1 1 106423 p-Xylene 1 0
5.13126333797774E-05 1
S0001 1 1 100425 Styrene 1 0
2.77186697431437E-05 1

```
S0001           1               1               100425          Styrene         1               0
3.13277130108115E-05 1
S0001           1               1               108883          Toluene         1               0
0.000703958629856047 1
S0001           1               1               108883          Toluene         1               0
0.000795615883878023 1
S0002           4               1               106990          1,3-Butadiene   1               0
0.00020525053351911 1
S0002           4               1               75070           Acetaldehyde    1               0
0.00794319564718955 1
S0002           4               1               71432           Benzene         1               0
0.00216161003721406 1
S0002           4               1               7782505         Chlorine        1               0
3.41827016349495E-06 1
S0002           4               1               7440508         Copper          1               0
1.29631915906806E-06 1
S0002           4               1               9901            DieselExhPM     1               37.83
0.00771618547064322 1
S0002           4               1               50000           Formaldehyde    1               0
0.0158950334221062 1
S0002           4               1               7439965         Manganese       1               0
1.14971163512584E-06 1
S0002           4               1               78933           MEK             1               0
0.00159555067108767 1
S0002           4               1               67561           Methanol        1               0
3.24079789767015E-05 1
S0002           4               1               108383          m-Xylene        1               0
0.000660042505158821 1
S0002           4               1               7440020         Nickel          1               0
1.09569833683134E-06 1
S0002           4               1               95476           o-Xylene        1               0
0.000361889098573167 1
S0002           4               1               106423          p-Xylene        1               0
0.000102625266759555 1
S0002           4               1               100425          Styrene         1               0
6.2655426021623E-05 1
S0002           4               1               108883          Toluene         1               0
0.00159123176775605 1

Background
PolID           PolAbbrev       Conc (ug/m^3)   MWAF
```

The pollutants IDs listed below are part of the database emission inventory but were note included in the analysis. These pollutants may be unknown or have no avaliable health information.

Ground level concentration files (\glc\)

100425MAXHR.txt
100425PER.txt
106423MAXHR.txt
106423PER.txt
106990MAXHR.txt
106990PER.txt
107028MAXHR.txt
107028PER.txt
108383MAXHR.txt
108383PER.txt
108883MAXHR.txt
108883PER.txt
115071MAXHR.txt
115071PER.txt
50000MAXHR.txt
50000PER.txt
67561MAXHR.txt
67561PER.txt
71432MAXHR.txt
71432PER.txt
7439965MAXHR.txt
7439965PER.txt
7440020MAXHR.txt
7440020PER.txt
7440508MAXHR.txt
7440508PER.txt
75070MAXHR.txt
75070PER.txt
7782505MAXHR.txt
7782505PER.txt
78933MAXHR.txt
78933PER.txt
95476MAXHR.txt
95476PER.txt
9901MAXHR.txt
9901PER.txt

POLLUTANT HEALTH INFORMATION
Health Database: C:\HARP2\Tables\HEALTH17320.mdb
Health Table Version: HEALTH22013
Official: True

PolID	PolAbbrev	InhCancer	OralCancer	AcuteREL	InhChronicREL	OralChronicREL	InhChronic8HRREL

106990	1,3-Butadiene	0.6	660	2		9
75070	Acetaldehyde	0.01	470	140		300
107028	Acrolein		2.5	0.35		0.7
71432	Benzene	0.1	27	3		3
7782505	Chlorine		210	0.2		
7440508	Copper		100			
9901	DieselExhPM	1.1		5		
50000	Formaldehyde	0.021	55	9		9
7439965	Manganese			0.09		0.17
78933	MEK		13000			
67561	Methanol		28000	4000		
108383	m-Xylene		22000	700		
7440020	Nickel	0.91	0.2	0.014	0.011	0.06
95476	o-Xylene		22000	700		
115071	Propylene			3000		
106423	p-Xylene		22000	700		
100425	Styrene		21000	900		
108883	Toluene		5000	420		830

AIR DISPERSION MODELING INFORMATION
Versions used in HARP. All executables were obtained from USEPA's Support Center for Regulatory Atmospheric Modeling website (http://www.epa.gov/scram001/)
AERMOD: 18081
AERMAP: 18081
BPIPPRM: 04274
AERPLOT: 13329

METEOROLOGICAL INFORMATION
Version:

Surface File: C:\HARP2\Quikrete_2022.02.28\723820.SFC
Profile File: C:\HARP2\Quikrete_2022.02.28\723820.PFL
Surface Station: 23182
Upper Station: 3190
On-Site Station: 0
Start Date & Time: 9 1 1 1
End Date & Time: 14 1 2 24
Hours Processed: 43872
Calm Hours: 6746
Missing Hours: 1852

LIST OF AIR DISPERSION FILES
AERMOD Input File: \QUIKRETE_AERMOD.inp
AERMOD Output File: \QUIKRETE_AERMOD.out
AERMOD Error File: \QUIKRETE_AERMOD.ERR
Plotfile list

____
MAX1HRS0001.PLT
MAX1HRS0002.PLT
PERIODS0001.PLT
PERIODS0002.PLT

LIST OF RISK ASSESSMENT FILES
Health risk analysis files (\hra\)

____
Quikrete_20220624_8HR_GLCList.csv
Quikrete_20220624_8HR_HRAInput.hra
Quikrete_20220624_8HR_NCChronic8HrRisk.csv
Quikrete_20220624_8HR_NCChronic8HrRiskSumByRec.csv
Quikrete_20220624_8HR_Output.txt
Quikrete_20220624_8HR_PathwayRec.csv
Quikrete_20220624_8HR_PolDB.csv
Quikrete_20220624_CancerRisk.csv
Quikrete_20220624_CancerRiskSumByRec.csv
Quikrete_20220624_GLCList.csv
Quikrete_20220624_HRAInput.hra
Quikrete_20220624_NCAcuteRisk.csv
Quikrete_20220624_NCAcuteRiskSumByRec.csv
Quikrete_20220624_NCChronicRisk.csv
Quikrete_20220624_NCChronicRiskSumByRec.csv
Quikrete_20220624_Output.txt
Quikrete_20220624_PathwayRec.csv
Quikrete_20220624_PolDB.csv

Spatial averaging files (\sa\)

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*HARP - HRACalc v22118 6/24/2022 4:55:52 PM - Cancer Risk - Input File: C:\HARP2\Quikrete_2022.02.28\QUIKRETE\hra\Quikrete_20220624_HRAInput.hra

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_RISK	MMILK_RISK	WATER_RISK	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISK	PIG_RISK	CHICKEN_RISK	EGG_RISK
1	SENSITIV	Residenc	408718	3826402	1.88E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.88E-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
2	SENSITIV	Residenc	408765	3826401	2.21E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	2.21E-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
3	SENSITIV	Residenc	408669	3826653	4.53E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	4.53E-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
4	PROPERTY		408755.7	3826481	4.23E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	4.23E-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
5	PROPERTY		408756	3826506	5.58E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	5.58E-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
6	PROPERTY		408756.3	3826531	7.51E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	7.51E-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
7	PROPERTY		408756.6	3826556	9.87E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	9.87E-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
8	PROPERTY		408756.9	3826581	1.19E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.19E-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
9	PROPERTY		408757.2	3826606	1.28E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.28E-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
10	PROPERTY		408757.5	3826631	1.25E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.25E-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
11	PROPERTY		408757.8	3826656	1.19E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.19E-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
12	PROPERTY		408758.1	3826681	1.18E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.18E-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
13	PROPERTY		408758.3	3826706	1.19E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.19E-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
14	PROPERTY		408758.6	3826731	1.18E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.18E-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
15	PROPERTY		408758.9	3826756	1.12E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.12E-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
16	PROPERTY		408759.2	3826781	1.01E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.01E-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
17	PROPERTY		408759.5	3826806	8.84E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	8.84E-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
18	PROPERTY		408759.8	3826831	7.66E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	7.66E-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
19	PROPERTY		408760.1	3826856	6.66E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	6.66E-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
20	PROPERTY		408760.3	3826874	6.06E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	6.06E-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
21	PROPERTY		408785.3	3826874	7.78E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	7.78E-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
22	PROPERTY		408810.3	3826874	1.03E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.03E-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
23	PROPERTY		408835.3	3826874	1.38E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.38E-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
24	PROPERTY		408860.3	3826873	1.79E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.79E-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
25	PROPERTY		408885.3	3826873	2.13E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	2.13E-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
26	PROPERTY		408910.3	3826873	2.29E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	2.29E-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
27	PROPERTY		408935.3	3826873	2.24E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	2.24E-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
28	PROPERTY		408960.3	3826873	2.02E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	2.02E-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
29	PROPERTY		408985.3	3826873	1.73E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.73E-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
30	PROPERTY		409010.3	3826873	1.44E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.44E-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
31	PROPERTY		409035.3	3826873	1.20E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.20E-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
32	PROPERTY		409060.3	3826872	1.01E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.01E-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
33	PROPERTY		409062.8	3826872	9.89E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	9.89E-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
34	PROPERTY		409062.4	3826847	1.04E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.04E-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
35	PROPERTY		409062.1	3826822	1.09E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.09E-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
36	PROPERTY		409061.8	3826797	1.12E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.12E-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
37	PROPERTY		409061.4	3826772	1.14E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.14E-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
38	PROPERTY		409061.1	3826747	1.15E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.15E-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
39	PROPERTY		409060.7	3826722	1.15E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.15E-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
40	PROPERTY		409060.4	3826697	1.12E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.12E-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
41	PROPERTY		409060	3826672	1.07E-05	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	1.07E-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
42	PROPERTY		409059.7	3826647	9.88E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	9.88E-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
43	PROPERTY		409059.4	3826622	8.93E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	8.93E-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
44	PROPERTY		409059	3826597	7.94E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	7.94E-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
45	PROPERTY		409058.7	3826572	7.04E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	7.04E-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
46	PROPERTY		409058.3	3826547	6.25E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	6.25E-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
47	PROPERTY		409058	3826522	5.53E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	5.53E-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
48	PROPERTY		409057.6	3826498	4.86E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	4.86E-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
49	PROPERTY		409057.4	3826479	4.34E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	4.34E-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
50	PROPERTY		409032.4	3826479	4.72E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	4.72E-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
51	PROPERTY		409007.4	3826480	5.18E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	5.18E-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
52	PROPERTY		408982.4	3826480	5.63E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	5.63E-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	0.00E+00	0.00E+00
53	PROPERTY		408957.4	3826480	6.10E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	6.10E-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
54	PROPERTY		408932.4	3826480	6.58E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	6.58E-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
55	PROPERTY		408907.4	3826480	7.00E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	7.00E-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
56	PROPERTY		408882.4	3826480	7.27E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	7.27E-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
57	PROPERTY		408857.4	3826481	7.36E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	7.36E-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
58	PROPERTY		408832.4	3826481	6.87E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	6.87E-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
59	PROPERTY		408807.4	3826481	6.03E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	6.03E-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
60	PROPERTY		408782.4	3826481	5.11E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	5.11E-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
61	PROPERTY		408757.4	3826481	4.28E-06	30YrCancerRMP_InhSoilDermMMilk_FAH3to70	4.28E-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

*HARP - HRACalc v22118 6/24/2022 4:55:52 PM - Chronic Risk - Input File: C:\HARP2\Quikrete_2022.02.28\QUIKRETE\hra\Quikrete_20220624_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	MAXHI
1	SENSITIV	Residenc	408718	3826402	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.45E-05	4.80E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.80E-03
2	SENSITIV	Residenc	408765	3826401	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.42E-05	5.81E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.81E-03
3	SENSITIV	Residenc	408669	3826653	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.75E-05	9.71E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.71E-03
4	PROPERTY		408755.7	3826481	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-04	1.23E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-02
5	PROPERTY		408756	3826506	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-04	1.68E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E-02
6	PROPERTY		408756.3	3826531	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.23E-04	2.34E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.34E-02
7	PROPERTY		408756.6	3826556	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.00E-04	3.14E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.14E-02
8	PROPERTY		408756.9	3826581	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.60E-04	3.76E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.76E-02
9	PROPERTY		408757.2	3826606	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.70E-04	3.89E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.89E-02
10	PROPERTY		408757.5	3826631	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.30E-04	3.51E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.51E-02
11	PROPERTY		408757.8	3826656	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.68E-04	2.91E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.91E-02
12	PROPERTY		408758.1	3826681	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.14E-04	2.40E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.40E-02
13	PROPERTY		408758.3	3826706	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-04	2.04E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.04E-02
14	PROPERTY		408758.6	3826731	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-04	1.77E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.77E-02
15	PROPERTY		408758.9	3826756	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-04	1.57E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.57E-02
16	PROPERTY		408759.2	3826781	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-04	1.38E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-02
17	PROPERTY		408759.5	3826806	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.76E-05	1.21E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-02
18	PROPERTY		408759.8	3826831	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.71E-05	1.07E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.07E-02
19	PROPERTY		408760.1	3826856	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.83E-05	9.57E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.57E-03
20	PROPERTY		408760.3	3826874	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.28E-05	8.85E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.85E-03
21	PROPERTY		408785.3	3826874	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.81E-05	1.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-02
22	PROPERTY		408810.3	3826874	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-04	1.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E-02
23	PROPERTY		408835.3	3826874	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-04	1.59E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-02
24	PROPERTY		408860.3	3826873	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-04	1.87E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.87E-02
25	PROPERTY		408885.3	3826873	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-04	2.10E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.10E-02
26	PROPERTY		408910.3	3826873	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-04	2.23E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.23E-02
27	PROPERTY		408935.3	3826873	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-04	2.24E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.24E-02
28	PROPERTY		408960.3	3826873	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-04	2.13E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-02
29	PROPERTY		408985.3	3826873	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-04	1.96E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.96E-02
30	PROPERTY		409010.3	3826873	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-04	1.75E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-02
31	PROPERTY		409035.3	3826873	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-04	1.55E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-02
32	PROPERTY		409060.3	3826872	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E-04	1.36E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-02
33	PROPERTY		409062.8	3826872	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-04	1.35E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-02
34	PROPERTY		409062.4	3826847	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E-04	1.42E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-02
35	PROPERTY		409062.1	3826822	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-04	1.49E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-02
36	PROPERTY		409061.8	3826797	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-04	1.56E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-02
37	PROPERTY		409061.4	3826772	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E-04	1.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E-02
38	PROPERTY		409061.1	3826747	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-04	1.68E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E-02
39	PROPERTY		409060.7	3826722	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-04	1.73E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.73E-02
40	PROPERTY		409060.4	3826697	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-04	1.77E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.77E-02
41	PROPERTY		409060	3826672	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-04	1.79E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02
42	PROPERTY		409059.7	3826647	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-04	1.78E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.78E-02
43	PROPERTY		409059.4	3826622	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-04	1.74E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-02
44	PROPERTY		409059	3826597	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-04	1.68E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E-02
45	PROPERTY		409058.7	3826572	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-04	1.61E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-02
46	PROPERTY		409058.3	3826547	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-04	1.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-02
47	PROPERTY		409058	3826522	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-04	1.41E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-02
48	PROPERTY		409057.6	3826498	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-04	1.27E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-02
49	PROPERTY		409057.4	3826479	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.07E-04	1.14E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-02
50	PROPERTY		409032.4	3826479	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-04	1.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-02
51	PROPERTY		409007.4	3826480	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-04	1.44E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-02
52	PROPERTY		408982.4	3826480	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-04	1.61E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-02
53	PROPERTY		408957.4	3826480	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.70E-04	1.80E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-02
54	PROPERTY		408932.4	3826480	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.88E-04	1.98E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.98E-02
55	PROPERTY		408907.4	3826480	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-04	2.16E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-02
56	PROPERTY		408882.4	3826480	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-04	2.27E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-02
57	PROPERTY		408857.4	3826481	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.22E-04	2.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.32E-02
58	PROPERTY		408832.4	3826481	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-04	2.15E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E-02
59	PROPERTY		408807.4	3826481	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.77E-04	1.86E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.86E-02
60	PROPERTY		408782.4	3826481	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-04	1.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-02
61	PROPERTY		408757.4	3826481	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-04	1.24E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-02

*HARP - HRACalc v22118 6/24/2022 4:56:28 PM - Chronic 8Hr Risk - Input File: C:\HARP2\Quikrete_2022.02.28\QUIKRETE\hra\Quikrete_20220624_8HR_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	MAXHI
1	SENSITIV	Residenc	408718	3826402	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.89E-06	2.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-03
2	SENSITIV	Residenc	408765	3826401	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-05	2.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.97E-03
3	SENSITIV	Residenc	408669	3826653	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-05	4.79E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.79E-03
4	PROPERTY		408755.7	3826481	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.57E-05	6.34E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.34E-03
5	PROPERTY		408756	3826506	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.54E-05	8.73E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.73E-03
6	PROPERTY		408756.3	3826531	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.96E-05	1.22E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-02
7	PROPERTY		408756.6	3826556	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.67E-05	1.64E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-02
8	PROPERTY		408756.9	3826581	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.99E-05	1.97E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.97E-02
9	PROPERTY		408757.2	3826606	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.23E-05	2.03E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.03E-02
10	PROPERTY		408757.5	3826631	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.34E-05	1.81E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.81E-02
11	PROPERTY		408757.8	3826656	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.95E-05	1.47E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-02
12	PROPERTY		408758.1	3826681	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.76E-05	1.17E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-02
13	PROPERTY		408758.3	3826706	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.89E-05	9.57E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.57E-03
14	PROPERTY		408758.6	3826731	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.26E-05	8.04E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.04E-03
15	PROPERTY		408758.9	3826756	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.82E-05	6.95E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.95E-03
16	PROPERTY		408759.2	3826781	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.46E-05	6.05E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.05E-03
17	PROPERTY		408759.5	3826806	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-05	5.35E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.35E-03
18	PROPERTY		408759.8	3826831	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.93E-05	4.77E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.77E-03
19	PROPERTY		408760.1	3826856	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-05	4.29E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.29E-03
20	PROPERTY		408760.3	3826874	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E-05	3.98E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.98E-03
21	PROPERTY		408785.3	3826874	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.96E-05	4.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.83E-03
22	PROPERTY		408810.3	3826874	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.32E-05	5.71E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.71E-03
23	PROPERTY		408835.3	3826874	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.66E-05	6.56E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.56E-03
24	PROPERTY		408860.3	3826873	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.00E-05	7.39E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.39E-03
25	PROPERTY		408885.3	3826873	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.27E-05	8.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.06E-03
26	PROPERTY		408910.3	3826873	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.46E-05	8.52E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.52E-03
27	PROPERTY		408935.3	3826873	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.52E-05	8.67E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.67E-03
28	PROPERTY		408960.3	3826873	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.45E-05	8.49E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.49E-03
29	PROPERTY		408985.3	3826873	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.26E-05	8.03E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.03E-03
30	PROPERTY		409010.3	3826873	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.00E-05	7.40E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-03
31	PROPERTY		409035.3	3826873	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.72E-05	6.70E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.70E-03
32	PROPERTY		409060.3	3826872	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-05	6.00E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.00E-03
33	PROPERTY		409062.8	3826872	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.41E-05	5.93E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.93E-03
34	PROPERTY		409062.4	3826847	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.55E-05	6.27E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.27E-03
35	PROPERTY		409062.1	3826822	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.68E-05	6.60E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.60E-03
36	PROPERTY		409061.8	3826797	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.81E-05	6.92E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.92E-03
37	PROPERTY		409061.4	3826772	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.94E-05	7.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.23E-03
38	PROPERTY		409061.1	3826747	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.06E-05	7.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.55E-03
39	PROPERTY		409060.7	3826722	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.19E-05	7.87E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.87E-03
40	PROPERTY		409060.4	3826697	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.31E-05	8.15E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.15E-03
41	PROPERTY		409060	3826672	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.39E-05	8.36E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.36E-03
42	PROPERTY		409059.7	3826647	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.43E-05	8.45E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.45E-03
43	PROPERTY		409059.4	3826622	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.42E-05	8.43E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.43E-03
44	PROPERTY		409059	3826597	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.36E-05	8.29E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.29E-03
45	PROPERTY		409058.7	3826572	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.27E-05	8.05E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.05E-03
46	PROPERTY		409058.3	3826547	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.12E-05	7.70E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.70E-03
47	PROPERTY		409058	3826522	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.91E-05	7.17E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.17E-03
48	PROPERTY		409057.6	3826498	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.63E-05	6.48E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.48E-03
49	PROPERTY		409057.4	3826479	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.37E-05	5.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.83E-03
50	PROPERTY		409032.4	3826479	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.66E-05	6.56E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.56E-03
51	PROPERTY		409007.4	3826480	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.02E-05	7.43E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.43E-03
52	PROPERTY		408982.4	3826480	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.38E-05	8.34E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.34E-03
53	PROPERTY		408957.4	3826480	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.78E-05	9.31E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.31E-03
54	PROPERTY		408932.4	3826480	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.19E-05	1.03E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-02
55	PROPERTY		408907.4	3826480	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.56E-05	1.12E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E-02
56	PROPERTY		408882.4	3826480	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.82E-05	1.19E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-02
57	PROPERTY		408857.4	3826481	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.92E-05	1.21E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-02
58	PROPERTY		408832.4	3826481	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.57E-05	1.13E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-02
59	PROPERTY		408807.4	3826481	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.93E-05	9.68E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.68E-03
60	PROPERTY		408782.4	3826481	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.23E-05	7.96E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.96E-03
61	PROPERTY		408757.4	3826481	NonCancer8HrChronic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.61E-05	6.43E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.43E-03

*HARP - HRACalc v22118 6/24/2022 4:55:52 PM - Acute Risk - Input File: C:\HARP2\Quikrete_2022.02.28\QUIKRETE\hra\Quikrete_20220624_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	MAXHI
1	SENSITIV	Residenc	408718	3826402	NonCancerAcute	0.00E+00	6.05E-05	1.37E-02	0.00E+00	0.00E+00	1.31E-02	6.22E-02	0.00E+00	1.23E-01	0.00E+00	0.00E+00	1.31E-02	0.00E+00	0.00E+00	1.23E-01
2	SENSITIV	Residenc	408765	3826401	NonCancerAcute	0.00E+00	6.59E-05	1.50E-02	0.00E+00	0.00E+00	1.43E-02	6.83E-02	0.00E+00	1.34E-01	0.00E+00	0.00E+00	1.42E-02	0.00E+00	0.00E+00	1.34E-01
3	SENSITIV	Residenc	408669	3826653	NonCancerAcute	0.00E+00	1.01E-04	2.31E-02	0.00E+00	0.00E+00	2.20E-02	8.74E-02	0.00E+00	1.85E-01	0.00E+00	0.00E+00	2.19E-02	0.00E+00	0.00E+00	1.85E-01
4	PROPERTY		408755.7	3826481	NonCancerAcute	0.00E+00	8.87E-05	2.01E-02	0.00E+00	0.00E+00	1.93E-02	9.47E-02	0.00E+00	1.84E-01	0.00E+00	0.00E+00	1.92E-02	0.00E+00	0.00E+00	1.84E-01
5	PROPERTY		408756	3826506	NonCancerAcute	0.00E+00	9.99E-05	2.27E-02	0.00E+00	0.00E+00	2.17E-02	1.08E-01	0.00E+00	2.10E-01	0.00E+00	0.00E+00	2.16E-02	0.00E+00	0.00E+00	2.10E-01
6	PROPERTY		408756.3	3826531	NonCancerAcute	0.00E+00	1.17E-04	2.66E-02	0.00E+00	0.00E+00	2.55E-02	1.33E-01	0.00E+00	2.53E-01	0.00E+00	0.00E+00	2.54E-02	0.00E+00	0.00E+00	2.53E-01
7	PROPERTY		408756.6	3826556	NonCancerAcute	0.00E+00	1.28E-04	2.89E-02	0.00E+00	0.00E+00	2.77E-02	1.42E-01	0.00E+00	2.72E-01	0.00E+00	0.00E+00	2.76E-02	0.00E+00	0.00E+00	2.72E-01
8	PROPERTY		408756.9	3826581	NonCancerAcute	0.00E+00	1.33E-04	3.01E-02	0.00E+00	0.00E+00	2.88E-02	1.46E-01	0.00E+00	2.81E-01	0.00E+00	0.00E+00	2.87E-02	0.00E+00	0.00E+00	2.81E-01
9	PROPERTY		408757.2	3826606	NonCancerAcute	0.00E+00	1.35E-04	3.07E-02	0.00E+00	0.00E+00	2.94E-02	1.40E-01	0.00E+00	2.76E-01	0.00E+00	0.00E+00	2.92E-02	0.00E+00	0.00E+00	2.76E-01
10	PROPERTY		408757.5	3826631	NonCancerAcute	0.00E+00	1.36E-04	3.09E-02	0.00E+00	0.00E+00	2.95E-02	1.33E-01	0.00E+00	2.68E-01	0.00E+00	0.00E+00	2.94E-02	0.00E+00	0.00E+00	2.68E-01
11	PROPERTY		408757.8	3826656	NonCancerAcute	0.00E+00	1.44E-04	3.28E-02	0.00E+00	0.00E+00	3.13E-02	1.23E-01	0.00E+00	2.61E-01	0.00E+00	0.00E+00	3.12E-02	0.00E+00	0.00E+00	2.61E-01
12	PROPERTY		408758.1	3826681	NonCancerAcute	0.00E+00	1.43E-04	3.25E-02	0.00E+00	0.00E+00	3.10E-02	1.12E-01	0.00E+00	2.47E-01	0.00E+00	0.00E+00	3.08E-02	0.00E+00	0.00E+00	2.47E-01
13	PROPERTY		408758.3	3826706	NonCancerAcute	0.00E+00	1.39E-04	3.18E-02	0.00E+00	0.00E+00	3.03E-02	1.02E-01	0.00E+00	2.33E-01	0.00E+00	0.00E+00	3.01E-02	0.00E+00	0.00E+00	2.33E-01
14	PROPERTY		408758.6	3826731	NonCancerAcute	0.00E+00	1.33E-04	3.03E-02	0.00E+00	0.00E+00	2.88E-02	9.28E-02	0.00E+00	2.16E-01	0.00E+00	0.00E+00	2.87E-02	0.00E+00	0.00E+00	2.16E-01
15	PROPERTY		408758.9	3826756	NonCancerAcute	0.00E+00	1.26E-04	2.89E-02	0.00E+00	0.00E+00	2.75E-02	8.53E-02	0.00E+00	2.02E-01	0.00E+00	0.00E+00	2.73E-02	0.00E+00	0.00E+00	2.02E-01
16	PROPERTY		408759.2	3826781	NonCancerAcute	0.00E+00	1.19E-04	2.71E-02	0.00E+00	0.00E+00	2.58E-02	7.78E-02	0.00E+00	1.87E-01	0.00E+00	0.00E+00	2.56E-02	0.00E+00	0.00E+00	1.87E-01
17	PROPERTY		408759.5	3826806	NonCancerAcute	0.00E+00	1.10E-04	2.52E-02	0.00E+00	0.00E+00	2.39E-02	7.10E-02	0.00E+00	1.72E-01	0.00E+00	0.00E+00	2.38E-02	0.00E+00	0.00E+00	1.72E-01
18	PROPERTY		408759.8	3826831	NonCancerAcute	0.00E+00	1.01E-04	2.30E-02	0.00E+00	0.00E+00	2.19E-02	6.49E-02	0.00E+00	1.57E-01	0.00E+00	0.00E+00	2.18E-02	0.00E+00	0.00E+00	1.57E-01
19	PROPERTY		408760.1	3826856	NonCancerAcute	0.00E+00	9.26E-05	2.12E-02	0.00E+00	0.00E+00	2.01E-02	5.96E-02	0.00E+00	1.44E-01	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	1.44E-01
20	PROPERTY		408760.3	3826874	NonCancerAcute	0.00E+00	8.68E-05	1.98E-02	0.00E+00	0.00E+00	1.89E-02	5.61E-02	0.00E+00	1.36E-01	0.00E+00	0.00E+00	1.88E-02	0.00E+00	0.00E+00	1.36E-01
21	PROPERTY		408785.3	3826874	NonCancerAcute	0.00E+00	9.04E-05	2.07E-02	0.00E+00	0.00E+00	1.96E-02	5.71E-02	0.00E+00	1.40E-01	0.00E+00	0.00E+00	1.95E-02	0.00E+00	0.00E+00	1.40E-01
22	PROPERTY		408810.3	3826874	NonCancerAcute	0.00E+00	9.32E-05	2.13E-02	0.00E+00	0.00E+00	2.02E-02	5.77E-02	0.00E+00	1.42E-01	0.00E+00	0.00E+00	2.01E-02	0.00E+00	0.00E+00	1.42E-01
23	PROPERTY		408835.3	3826874	NonCancerAcute	0.00E+00	9.48E-05	2.17E-02	0.00E+00	0.00E+00	2.06E-02	5.73E-02	0.00E+00	1.43E-01	0.00E+00	0.00E+00	2.05E-02	0.00E+00	0.00E+00	1.43E-01
24	PROPERTY		408860.3	3826873	NonCancerAcute	0.00E+00	9.47E-05	2.17E-02	0.00E+00	0.00E+00	2.06E-02	5.56E-02	0.00E+00	1.41E-01	0.00E+00	0.00E+00	2.05E-02	0.00E+00	0.00E+00	1.41E-01
25	PROPERTY		408885.3	3826873	NonCancerAcute	0.00E+00	9.25E-05	2.12E-02	0.00E+00	0.00E+00	2.01E-02	5.51E-02	0.00E+00	1.39E-01	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	1.39E-01
26	PROPERTY		408910.3	3826873	NonCancerAcute	0.00E+00	9.07E-05	2.07E-02	0.00E+00	0.00E+00	1.97E-02	5.41E-02	0.00E+00	1.36E-01	0.00E+00	0.00E+00	1.96E-02	0.00E+00	0.00E+00	1.36E-01
27	PROPERTY		408935.3	3826873	NonCancerAcute	0.00E+00	8.79E-05	2.01E-02	0.00E+00	0.00E+00	1.91E-02	5.30E-02	0.00E+00	1.33E-01	0.00E+00	0.00E+00	1.90E-02	0.00E+00	0.00E+00	1.33E-01
28	PROPERTY		408960.3	3826873	NonCancerAcute	0.00E+00	8.44E-05	1.93E-02	0.00E+00	0.00E+00	1.83E-02	5.14E-02	0.00E+00	1.28E-01	0.00E+00	0.00E+00	1.82E-02	0.00E+00	0.00E+00	1.28E-01
29	PROPERTY		408985.3	3826873	NonCancerAcute	0.00E+00	8.04E-05	1.84E-02	0.00E+00	0.00E+00	1.75E-02	4.99E-02	0.00E+00	1.23E-01	0.00E+00	0.00E+00	1.74E-02	0.00E+00	0.00E+00	1.23E-01
30	PROPERTY		409010.3	3826873	NonCancerAcute	0.00E+00	7.62E-05	1.74E-02	0.00E+00	0.00E+00	1.65E-02	4.81E-02	0.00E+00	1.18E-01	0.00E+00	0.00E+00	1.65E-02	0.00E+00	0.00E+00	1.18E-01
31	PROPERTY		409035.3	3826873	NonCancerAcute	0.00E+00	7.20E-05	1.64E-02	0.00E+00	0.00E+00	1.56E-02	4.62E-02	0.00E+00	1.12E-01	0.00E+00	0.00E+00	1.55E-02	0.00E+00	0.00E+00	1.12E-01
32	PROPERTY		409060.3	3826872	NonCancerAcute	0.00E+00	6.80E-05	1.55E-02	0.00E+00	0.00E+00	1.48E-02	4.45E-02	0.00E+00	1.07E-01	0.00E+00	0.00E+00	1.47E-02	0.00E+00	0.00E+00	1.07E-01
33	PROPERTY		409062.8	3826872	NonCancerAcute	0.00E+00	6.76E-05	1.55E-02	0.00E+00	0.00E+00	1.47E-02	4.43E-02	0.00E+00	1.06E-01	0.00E+00	0.00E+00	1.46E-02	0.00E+00	0.00E+00	1.06E-01
34	PROPERTY		409062.4	3826847	NonCancerAcute	0.00E+00	7.18E-05	1.64E-02	0.00E+00	0.00E+00	1.56E-02	4.70E-02	0.00E+00	1.13E-01	0.00E+00	0.00E+00	1.55E-02	0.00E+00	0.00E+00	1.13E-01
35	PROPERTY		409062.1	3826822	NonCancerAcute	0.00E+00	7.37E-05	1.68E-02	0.00E+00	0.00E+00	1.60E-02	4.98E-02	0.00E+00	1.18E-01	0.00E+00	0.00E+00	1.59E-02	0.00E+00	0.00E+00	1.18E-01
36	PROPERTY		409061.8	3826797	NonCancerAcute	0.00E+00	7.79E-05	1.78E-02	0.00E+00	0.00E+00	1.69E-02	5.30E-02	0.00E+00	1.25E-01	0.00E+00	0.00E+00	1.68E-02	0.00E+00	0.00E+00	1.25E-01
37	PROPERTY		409061.4	3826772	NonCancerAcute	0.00E+00	8.17E-05	1.87E-02	0.00E+00	0.00E+00	1.77E-02	5.64E-02	0.00E+00	1.32E-01	0.00E+00	0.00E+00	1.77E-02	0.00E+00	0.00E+00	1.32E-01
38	PROPERTY		409061.1	3826747	NonCancerAcute	0.00E+00	8.49E-05	1.94E-02	0.00E+00	0.00E+00	1.84E-02	5.95E-02	0.00E+00	1.38E-01	0.00E+00	0.00E+00	1.84E-02	0.00E+00	0.00E+00	1.38E-01
39	PROPERTY		409060.7	3826722	NonCancerAcute	0.00E+00	8.76E-05	2.00E-02	0.00E+00	0.00E+00	1.90E-02	6.29E-02	0.00E+00	1.44E-01	0.00E+00	0.00E+00	1.89E-02	0.00E+00	0.00E+00	1.44E-01
40	PROPERTY		409060.4	3826697	NonCancerAcute	0.00E+00	8.70E-05	1.99E-02	0.00E+00	0.00E+00	1.89E-02	6.26E-02	0.00E+00	1.44E-01	0.00E+00	0.00E+00	1.88E-02	0.00E+00	0.00E+00	1.44E-01
41	PROPERTY		409060	3826672	NonCancerAcute	0.00E+00	8.74E-05	1.99E-02	0.00E+00	0.00E+00	1.90E-02	6.53E-02	0.00E+00	1.47E-01	0.00E+00	0.00E+00	1.89E-02	0.00E+00	0.00E+00	1.47E-01
42	PROPERTY		409059.7	3826647	NonCancerAcute	0.00E+00	8.72E-05	1.99E-02	0.00E+00	0.00E+00	1.89E-02	6.76E-02	0.00E+00	1.50E-01	0.00E+00	0.00E+00	1.88E-02	0.00E+00	0.00E+00	1.50E-01
43	PROPERTY		409059.4	3826622	NonCancerAcute	0.00E+00	8.65E-05	1.97E-02	0.00E+00	0.00E+00	1.88E-02	6.96E-02	0.00E+00	1.52E-01	0.00E+00	0.00E+00	1.87E-02	0.00E+00	0.00E+00	1.52E-01
44	PROPERTY		409059	3826597	NonCancerAcute	0.00E+00	7.99E-05	1.82E-02	0.00E+00	0.00E+00	1.73E-02	7.02E-02	0.00E+00	1.47E-01	0.00E+00	0.00E+00	1.73E-02	0.00E+00	0.00E+00	1.47E-01
45	PROPERTY		409058.7	3826572	NonCancerAcute	0.00E+00	7.55E-05	1.72E-02	0.00E+00	0.00E+00	1.64E-02	7.01E-02	0.00E+00	1.44E-01	0.00E+00	0.00E+00	1.63E-02	0.00E+00	0.00E+00	1.44E-01
46	PROPERTY		409058.3	3826547	NonCancerAcute	0.00E+00	7.30E-05	1.66E-02	0.00E+00	0.00E+00	1.58E-02	6.93E-02	0.00E+00	1.41E-01	0.00E+00	0.00E+00	1.58E-02	0.00E+00	0.00E+00	1.41E-01
47	PROPERTY		409058	3826522	NonCancerAcute	0.00E+00	6.97E-05	1.58E-02	0.00E+00	0.00E+00	1.51E-02	6.76E-02	0.00E+00	1.36E-01	0.00E+00	0.00E+00	1.51E-02	0.00E+00	0.00E+00	1.36E-01
48	PROPERTY		409057.6	3826498	NonCancerAcute	0.00E+00	6.69E-05	1.52E-02	0.00E+00	0.00E+00	1.45E-02	6.58E-02	0.00E+00	1.32E-01	0.00E+00	0.00E+00	1.45E-02	0.00E+00	0.00E+00	1.32E-01
49	PROPERTY		409057.4	3826479	NonCancerAcute	0.00E+00	6.40E-05	1.45E-02	0.00E+00	0.00E+00	1.39E-02	6.37E-02	0.00E+00	1.27E-01	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.27E-01
50	PROPERTY		409032.4	3826479	NonCancerAcute	0.00E+00	6.92E-05	1.57E-02	0.00E+00	0.00E+00	1.50E-02	6.96E-02	0.00E+00	1.38E-01	0.00E+00	0.00E+00	1.49E-02	0.00E+00	0.00E+00	1.38E-01
51	PROPERTY		409007.4	3826480	NonCancerAcute	0.00E+00	7.37E-05	1.67E-02	0.00E+00	0.00E+00	1.60E-02	7.50E-02	0.00E+00	1.49E-01	0.00E+00	0.00E+00	1.59E-02	0.00E+00	0.00E+00	1.49E-01
52	PROPERTY		408982.4	3826480	NonCancerAcute	0.00E+00	7.46E-05	1.69E-02	0.00E+00	0.00E+00	1.62E-02	7.44E-02	0.00E+00	1.49E-01	0.00E+00	0.00E+00	1.61E-02	0.00E+00	0.00E+00	1.49E-01
53	PROPERTY		408957.4	3826480	NonCancerAcute	0.00E+00	7.89E-05	1.79E-02	0.00E+00	0.00E+00	1.71E-02	7.95E-02	0.00E+00	1.58E-01	0.00E+00	0.00E+00	1.70E-02	0.00E+00	0.00E+00	1.58E-01
54	PROPERTY		408932.4	3826480	NonCancerAcute	0.00E+00	8.47E-05	1.92E-02	0.00E+00	0.00E+00	1.84E-02	8.75E-02	0.00E+00	1.72E-01	0.00E+00	0.00E+00	1.83E-02	0.00E+00	0.00E+00	1.72E-01
55	PROPERTY		408907.4	3826480	NonCancerAcute	0.00E+00	9.05E-05	2.05E-02	0.00E+00	0.00E+00	1.97E-02	9.61E-02	0.00E+00	1.87E-01	0.00E+00	0.00E+00	1.96E-02	0.00E+00	0.00E+00	1.87E-01
56	PROPERTY		408882.4	3826480	NonCancerAcute	0.00E+00	9.50E-05	2.15E-02	0.00E+00	0.00E+00	2.06E-02	1.04E-01	0.00E+00	2.00E-01	0.00E+00	0.00E+00	2.05E-02	0.00E+00	0.00E+00	2.00E-01
57	PROPERTY		408857.4	3826481	NonCancerAcute	0.00E+00	1.01E-04	2.28E-02	0.00E+00	0.00E+00	2.18E-02	1.09E-01	0.00E+00	2.11E-01	0.00E+00	0.00E+00	2.17E-02	0.00E+00	0.00E+00	2.11E-01
58	PROPERTY		408832.4	3826481	NonCancerAcute	0.00E+00	1.04E-04	2.36E-02	0.00E+00	0.00E+00	2.26E-02	1.15E-01	0.00E+00	2.21E-01	0.00E+00	0.00E+00	2.25E-02	0.00E+00	0.00E+00	2.21E-01
59	PROPERTY		408807.4	3826481	NonCancerAcute	0.00E+00	1.00E-04	2.27E-02	0.00E+00	0.00E+00	2.17E-02	1.11E-01	0.00E+00	2.13E-01	0.00E+00	0.00E+00	2.16E-02	0.00E+00	0.00E+00	2.13E-01
60	PROPERTY		408782.4	3826481	NonCancerAcute	0.00E+00	9.62E-05	2.18E-02	0.00E+00	0.00E+00	2.09E-02	1.05E-01	0.00E+00	2.03E-01	0.00E+00	0.00E+00	2.08E-02	0.00E+00	0.00E+00	2.03E-01
61	PROPERTY		408757.4	3826481	NonCancerAcute	0.00E+00	8.90E-05	2.02E-02	0.00E+00	0.00E+00	1.93E-02	9.50E-02	0.00E+00	1.85E-01	0.00E+00	0.00E+00	1.92E-02	0.00E+00	0.00E+00	1.85E-01

ATTACHMENT F – Fuel Consumption Calculations

F1 - Fuel Consumption Calculations, Construction

Construction Schedule

***Construction Schedule input on data request form; construction schedule verified by AV Engineering**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Days/Week	Number of Days	Notes
1	Site Preparation	Site Preparation	2/13/2023	2/25/2023	6	12	Start date of 2/13/2023, 6 days per week, and number of days provided on data request form.
2	Grading	Grading	2/26/2023	4/8/2023	6	36	Number of days provided on data request form.
3	Building Construction	Building Construction	4/9/2023	12/16/2023	6	216	Number of days provided on data request form.
4	Paving	Paving	12/17/2023	1/27/2024	6	36	Number of days provided on data request form.
5	Architectural Coating	Architectural Coating	1/28/2024	2/20/2024	6	20	Number of days provided on data request form. End date adjusted to accommodate number of days.
					total	320	

Off-road Equipment (from Input Sheet for CalEEMod_Input_Sheet_Quikrete_update_06.29.22, tab 3. Construction)

Construction Phase	Offroad Equipment Type	Amount	Usage (Hours/Day)	Added Total Usage (Hours/Day)	Added Total Usage (Hours/Project)	Horse Power	Load Factor	Added Fuel Rate (gal/hr)	Added Diesel Used (gal)
Site Preparation	Rubber Tired Dozers	2	8	16	192	247	0.40	5.05	969.2
	Tractors/Loaders/Backhoe	2	8	16	192	97	0.37	1.83	352.1
Grading	Excavators	2	8	16	576	158	0.38	3.07	1767.0
	Graders	1	8	8	288	187	0.41	3.92	1128.2
	Rubber Tired Dozers	1	8	8	288	247	0.40	5.05	1453.9
	Scrapers	3	8	24	864	367	0.48	9.00	7776.8
	Tractors/Loaders/Backhoe	3	8	24	864	97	0.37	1.83	1584.4
Building Construction	Cranes	2	7	14	3024	231	0.29	3.42	10350.7
	Forklifts	3	8	24	5184	89	0.20	0.91	4714.8
	Generator Sets	2	8	16	3456	84	0.74	3.18	10976.5
	Tractors/Loaders/Backhoe	3	7	21	4536	97	0.37	1.83	8318.1
	Welders	2	8	16	3456	46	0.45	1.06	3655.3
Paving	Pavers	2	8	16	576	130	0.42	2.79	1606.9
	Paving Equipment	2	8	16	576	132	0.36	2.43	1398.5
	Rollers	2	8	16	576	80	0.38	1.55	894.7
Architectural Coating	Air Compressors	2	6	12	240	78	0.48	1.91	459.1
							Total Construction Gallons (Diesel)		57,406.20

Notes:

Fuel flow rate calculated based on the values in the table below; Fuel Flow Rate = horsepower (hp) x BSFC / HHV x Load Factor

Calculation table used to calculate the fuel flow rate

Fuel	BSFC (Btu/hp-hr)	HHV (Btu/gal)	Value	Units
Diesel	7,000	137,000	0.0511	gal/hp-hr

*Fuel usage rate calculation based on the following:

BSFC = 7,000 BTU/hp-hr (Source: AP-42, Section 3.3 Gasoline and Diesel Industrial Engines, Table 3.3.1)

HHV (diesel) = 137,000 BTU/gal (Source: AP-42, Appendix A - Miscellaneous Data and Conversion Factors)

F2 - Fuel Consumption Calculations, Operational, Electricity

Annual Electricity Use

Manufacturing	1.78E+06	
Parking Lot	22680	
	1,804,150	kWh
	1,804	MWh

Annual Natural Gas Use

Manufacturing	2.95E+06	
Parking Lot	0	
	2,946,160	kBTU
	2,946,160,000	BTU
	29,462	Therms

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Manufacturing	1.78147e+006	315.9366	0.0267	3.2300e-003	317.5664
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	22680	4.0222	3.4000e-004	4.0000e-005	4.0430
Total		**319.9588**	**0.0270**	**3.2700e-003**	**321.6094**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO
Land Use	kBTU/yr			
City Park	0	0.0000	0.0000	0.0000
Manufacturing	2.94616e+006	0.0159	0.1444	0.1213
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000
Total		**0.0159**	**0.1444**	**0.1213**

Quikrete Plant - Operational Fuel Consumption and Energy Consumption from Vehicle Trips (based on EMFAC2021 (v1.0.2) factors)

Total VMT from CalEEMod Output File for Quikrete Plant =	**1,120,970**	**miles/year**		
Total Manufacturing VMT from CalEEMod Output File for Quikrete Plant =	**722,480**			
Total Other Non-Asphalt Surfaces VMT from CalEEMod Output File for Quikrete Plant =	**398,490**			
Total Fuel Consumption <u>for Quikrete Plant</u> (including Gasoline, Diesel, Natural Gas) =	**88,997**	**gallons/year**	**0.103%**	**Percent of total for AVAQMD**
Total Energy Consumption <u>for Quikrete Plant</u> from Electric Vehicles and Plug in Hybrid Vehicles =	**6,201**	**kwh/year**	**0.025%**	**Percent of total for AVAQMD**
Total Fuel Consumption in AVAQMD (including Gasoline, Diesel, Natural Gas) =	**86,733,861**	**gallons/year**		
Total Energy Consumption in AVAQMD from Electric Vehicles and Plug in Hybrid Vehicles =	**25,283,096**	**kwh/year**		

Note: cVMT = represents conventional VMT which is powered by conventional fuel, e.g. gasoline, diesel, or natural gas. eVMT = represents electric VMT, which is powered by battery or electricity. Total VMT = sum of cVMT and eVMT

Vehicle Category	Total VMT in AVAQMD for Vehicle Category (miles/day)	Fuel Type	For Vlookup	cVMT per Vehicle Category & Fuel Type	eVMT per Vehicle Category & Fuel Type	Total VMT	% of VMT per Vehicle Category	% of cVMT per Vehicle Category	% of eVMT per Vehicle Category	Energy Consumption (kWh/mile	Fuel Consumption (gal/mile)	Quikrete Vehicle Fleet Mix from CalEEMod	Quikrete Miles/year per Vehicle Category	Total VMT per Vehicle Category & Fuel Type	cVMT per Vehicle Category (mile/year)	eVMT per Vehicle Category (mile/year)	Fuel Consumption (gal/year)	Energy Consumption (kwh/year)
HHDT	249,120.10	Gasoline	HHDT-Gasoline	17.48	0.00	17.48	0.000%	100%	0%	0.000	0.195	100.00%	398,490	0.00	0.00	0.00	0.00	0.00
		Diesel	HHDT-Diesel	247940.03	0.00	247940.03	100.000%	100%	0%	0.000	0.157			398490.00	398490.00	0.00	62628.62	0.00
		Natural Gas	HHDT-Natural Gas	579.55	0.00	579.55	0.000%	100%	0%	0.000	0.189			0.00	0.00	0.00	0.00	0.00
		Electricity	HHDT-Electricity	0.00	583.04	583.04	0.000%	0%	100%	1.778	0.000			0.00	0.00	0.00	0.00	0.00
		Plug-in Hybrid	HHDT-Plug-in Hybrid	-	-	0.00	0.000%	-	-	-	-			0.00	0.00	0.00	0	0.00
LDA	4,195,497.90	Gasoline	LDA-Gasoline	3949407.54	0.00	3949407.54	94.134%	100%	0%	0.000	0.034	50.00%	361,240	340051.17	340051.17	0.00	11455.78	0.00
		Diesel	LDA-Diesel	13308.04	0.00	13308.04	0.32%	100%	0%	0.000	0.022			1145.85	1145.85	0.00	25.59	0.00
		Natural Gas	LDA-Natural Gas	-	-	0.00	0.00%	-	-	-	-			0.00	0.00	0.00	0	0.00
		Electricity	LDA-Electricity	0.00	124266.32	124266.32	2.96%	0%	100%	0.386	0.000			10699.56	0.00	10699.56	0.00	4130.91
		Plug-in Hybrid	LDA-Plug-in Hybrid	54644.27	53871.74	108516.01	2.59%	50%	50%	0.302	0.033			9343.43	4704.97	4638.45	157.23	1400.95
LDT1	280,052.34	Gasoline	LDT1-Gasoline	279226.13	0.00	279226.13	99.705%	100%	0%	0.000	0.041	25.00%	180,620	180087.13	180087.13	0.00	7307.68	0.00
		Diesel	LDT1-Diesel	83.49	0.00	83.49	0.030%	100%	0%	0.000	0.040			53.85	53.85	0.00	2.13	0.00
		Natural Gas	LDT1-Natural Gas	-	-	0.00	0.000%	-	-	-	-			0.00	0.00	0.00	0	0.00
		Electricity	LDT1-Electricity	0.00	358.12	358.12	0.128%	0%	100%	0.386	0.000			230.97	0.00	230.97	0.00	89.17
		Plug-in Hybrid	LDT1-Plug-in Hybrid	171.72	212.88	384.60	0.137%	45%	55%	0.302	0.034			248.05	110.75	137.30	3.72	41.47
LDT2	1,267,254.87	Gasoline	LDT2-Gasoline	1247524.68	0.00	1247524.68	98.443%	100%	0%	0.000	0.041	25.00%	180,620	177807.89	177807.89	0.00	7377.35	0.00
		Diesel	LDT2-Diesel	3784.21	0.00	3784.21	0.299%	100%	0%	0.000	0.029			539.36	539.36	0.00	15.48	0.00
		Natural Gas	LDT2-Natural Gas	-	-	0.00	0.000%	-	-	-	-			0.00	0.00	0.00	0	0.00
		Electricity	LDT2-Electricity	0.00	5359.68	5359.68	0.423%	0%	100%	0.386	0.000			763.91	0.00	763.91	0.00	294.93
		Plug-in Hybrid	LDT2-Plug-in Hybrid	4917.60	5668.71	10586.30	0.835%	46%	54%	0.302	0.034			1508.85	700.90	807.95	23.59	244.03