LOZEAU DRURY LLP

T 510.836.4200
F 510.836.4205

1939 Harrison Street, Ste. 150
Oakland, CA 94612

www.lozeaudrury.com
richard@lozeaudrury.com

Via Email

Comment Letter A

April 3, 2023

Lupita Garcia, Associate Planner
Planning Division
City of Perris
135 North "D" Street
Perris, CA 92570
lgarcia@cityofperris.org

Kenneth Phung, Director
Development Services Department
City of Perris
135 North "D" Street
Perris, CA 92570
kphung@cityofperris.org

Nancy Salazar, City Clerk
City Clerk's Office
City of Perris
135 North "D" Street
Perris, CA 92570
cityclerk@cityofperris.org

Re: CEQA and Land Use Notice Request for the Mapes and Trumble Industrial Facility Project (Conditional Use Permit 22-05023)

Dear Ms. Garcia, Mr. Phung, and Ms. Salazaar

I am writing on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Mapes and Trumble Industrial Facility Project (Conditional Use Permit 22-05023) project, including all actions related or referring to the proposed construction of a 396,000-square-foot warehouse building, located at Mapes Road and Trumble Road, Perris 92571 (Assessor's Parcel Numbers [APNs] 329-020-033, -034, - 044 and -046) ("Project").

We hereby request that the City of Perris send by electronic mail, if possible or U.S. mail to our firm at the address below notice of any and all actions or hearings related to activities undertaken, authorized, approved, permitted, licensed, or certified by the City of Perris and any of its subdivisions, and/or supported, in whole or in part, through contracts, grants, subsidies, loans or other forms of assistance from the City of Perris, including, but not limited to the following:

- Notice of any public hearing in connection with the Project as required by California Planning and Zoning Law pursuant to Government Code Section 65091.
- Any and all notices prepared for the Project pursuant to the California Environmental Quality Act ("CEQA"), including, but not limited to:
  - Notices of any public hearing held pursuant to CEQA.
  - Notices of determination that an Environmental Impact Report ("EIR") is required for the Project, prepared pursuant to Public Resources Code Section 21080.4.
  - Notices of any scoping meeting held pursuant to Public Resources Code Section 21083.9.
  - Notices of preparation of an EIR or a negative declaration for the Project, prepared pursuant to Public Resources Code Section 21092.
  - Notices of availability of an EIR or a negative declaration for the Project, prepared pursuant to Public Resources Code Section 21152 and Section 15087 of Title 14 of the

A-1

California Code of Regulations.

- Notices of approval and/or determination to carry out the Project, prepared pursuant to Public Resources Code Section 21152 or any other provision of law.
- Notices of any addenda prepared to a previously certified or approved EIR.
- Notices of approval or certification of any EIR or negative declaration, prepared pursuant to Public Resources Code Section 21152 or any other provision of law.
- Notices of determination that the Project is exempt from CEQA, prepared pursuant to Public Resources Code section 21152 or any other provision of law.
- Notice of any Final EIR prepared pursuant to CEQA.
- Notice of determination, prepared pursuant to Public Resources Code Section 21108 or Section 21152.

A-1

Please note that we are requesting notices of CEQA actions and notices of any public hearings to be held under any provision of Title 7 of the California Government Code governing California Planning and Zoning Law. **This request is filed pursuant to Public Resources Code Sections 21092.2 and 21167(f), and Government Code Section 65092**, which require local counties to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body.

Please send notice by electronic mail or U.S. Mail to:

Richard Drury
Molly Greene
Colby Gonzalez
Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612
richard@lozeaudrury.com
molly@lozeaudrury.com
colby@lozeaudrury.com

A-2

Please call if you have any questions. Thank you for your attention to this matter.

Sincerely,

Colby Gonzalez

Colby Gonzalez
Lozeau | Drury LLP

LOZEAU DRURY LLP

T 510.836.4200
F 510.836.4205

1939 Harrison Street, Ste. 150
Oakland, CA 94612

www.lozeaudrury.com
brian@lozeaudrury.com

Via Email

Comment Letter B

April 4, 2023

Luipita Garcia, City Planner
Planning Division
City of Perris
101 N. D Street
Perris, CA 9257
lgarcia@cityofperris.org

Re: Comment on Mitigated Negative Declaration
Mapes and Trumble Industrial Facility Project (CUP 22-05023)

Dear Ms. Garcia:

I am writing on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Initial Study and Mitigated Negative Declaration ("MND") prepared for the Mapes and Trumble Industrial Facility Project (CUP 22-05023) ("Project"), which proposes the construction and operation of a 396,000-square-foot warehouse building located at Mapes Road and Trumble Road in the City of Perris (APNs 329-020-033, -034, - 044, and -046).

SAFER is concerned that the MND is improper under the California Environmental Quality Act, Public Resources Code sections 21000, *et seq*. ("CEQA"), due to the MND's failure to adequately assess the Project's potentially significant environmental impacts, including but not limited to impacts to air quality, human health, energy use, biological resources. SAFER requests that an environmental impact report ("EIR") be prepared for the Project rather than an MND to ensure that potentially significant impacts of this Project are fully disclosed, analyzed, and mitigated.

B-1

We reserve the right to further supplement this comment throughout the administrative process. (*Galante Vineyards v. Monterey Peninsula Water Management Dist*. (1997) 60 Cal.App.4th 1109, 1121.)

B-2

Sincerely,

Brian B. Flynn

April 11, 2023

Comment Letter C

Lupita Garcia, Associate Planner
City of Perris
Development Services Department
135 North "D" Street
Perris, CA 92570

Subject: **EMWD Comments for the Mapes and Trumble Industrial Facility Project Notice of Intent to Adopt a Mitigated Negative Declaration**

Location: Southwest corner of Mapes Road and Trumble Road in the City of Perris, Riverside County, California.

Dear Ms. Lupita Garcia:

Eastern Municipal Water District (EMWD) thanks you for the opportunity to comment on the Notice of Intention to Adopt a Mitigated Negative Declaration for the Mapes and Trumble Industrial Facility Project (project). The project proposes the construction of a 396,000 square foot industrial warehouse building consisting of 12,000 square feet of office area and 384,000 square feet of warehouse area with 45 loading docks, and associated landscaping, parking and street improvements on 19.16 acres.

EMWD offers the following comments:

To define the impact(s) on the environment and on existing EMWD facilities, and as development within this area occurs over time, the proponents of implementing development projects shall consult EMWD's Development Services Department to compare proposed and existing water demands and sewer flows, and prepare a Design Conditions report (DC), formally known as the Plan of Service (POS), to detail all pertinent facilities necessary to serve such implementing development projects, resulting in an approved DC, prior to final design and plan check of such facilities. C-1

Board of Directors
Philip E. Paule, *President* Stephen J. Corona, *Vice President* Jeff Armstrong Randy A. Record David J. Slawson

2270 Trumble Road • P.O. Box 8300 • Perris, CA 92572-8300
T 951.928.3777 • F 951.928.6177 www.emwd.org

To help define EMWD's Design Conditions, EMWD requires beginning dialogue with project proponents at an early stage in the site design and development, via a one-hour complementary Due Diligence meeting. To set up this meeting the project proponent should complete a Project Questionnaire (form NBD-058) and submit to EMWD. To download this form or for additional information, please visit our web page www.emwd.org, then select the "Developer" link, then select the "New Development Process Forms" link. This meeting will offer the following benefits:

1. Describe EMWD's development process.
2. Identify project scope and parameters.
3. Provide a preliminary review of the project within the context of existing infrastructure.
4. Discuss potential candidacy for recycled water service.
5. Identify project submittal requirements to start the Design Conditions review.

C-2

Following the Due Diligence meeting, and to proceed with a project, the Design Conditions will need to be developed by the developer's engineer and reviewed/approved by EMWD prior to submitting improvement plans for Plan Check. The DC process and approval will provide the following:

1. Technical evaluation of the project's demands and existing system capacities.
2. Identification of impacts to existing facilities.
3. Identification of additional on-site and off-site facilities, necessary to serve the project.
4. Identification of easement requirements, if necessary.
5. Identification of potential EMWD's cost participation in facility oversizing, if applicable.

C-3

If you have questions or concerns, please do not hesitate to contact Maroun El-Hage at (951) 928-3777, extension 4468 or by e-mail at El-hagem@emwd.org.

Sincerely,

Al Javier

Digitally signed by Al Javier
Date: 2023.04.11 15:20:24 -07'00'

Alfred Javier
Director of Environmental and Regulatory Compliance

ARJ: hs

FREEDOM PROPERTIES LP
8528 Via Mallorca Unit D
La Jolla, CA. 92037
858-242-0360

Comment Letter D

April 17, 2023

Lupita Garcia, Associate Planner
(951)943-5003
lgarcia@cityofperris.org
City of Perris
Development Services Department/Planning Division
135 North “D” Street
Perris, California 92570

Ms. Garcia,

I, Irene Kokinelis, am the sole owner of Freedom Properties LP, the owner of 25110 Trumble Road in Menifee CA. 92585.

I have received the Notice of Intent to Adopt Negative Declaration (MND 2387) for the City of Perris, California.

I am in total agreement with this project. It would be a tremendous improvement to the area. I would like to see it completed as soon as possible.

Thank you for sending me the notice.

Respectfully,
Irene Kokinelis

D-1

JASON E. UHLEY
General Manager-Chief Engineer

1995 MARKET STREET
RIVERSIDE, CA 92501
951.955.1200
951.788.9965 FAX
www.rcflood.org

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

242406

February 17, 2022

Comment Letter E

City of Perris
Planning Department
135 North D Street
Perris, CA 92570

Attention: Lupita Garcia

Re: CUP 22-05023
APNs 329-020-033, -034, -044 and -046

The Riverside County Flood Control and Water Conservation District (District) does not normally recommend conditions for land divisions or other land use cases in incorporated cities. The District also does not plan check City land use cases or provide State Division of Real Estate letters or other flood hazard reports for such cases. District comments/recommendations for such cases are normally limited to items of specific interest to the District including District Master Drainage Plan facilities, other regional flood control and drainage facilities which could be considered a logical component or extension of a master plan system, and District Area Drainage Plan fees (development mitigation fees). In addition, information of a general nature is provided. E-1

The District's review is based on the above-referenced project transmittal, received February 15, 2022. The District **has not** reviewed the proposed project in detail, and the following comments do not in any way constitute or imply District approval or endorsement of the proposed project with respect to flood hazard, public health and safety, or any other such issue:

☐ This project would not be impacted by District Master Drainage Plan facilities, nor are other facilities of regional interest proposed.

☒ This project involves District proposed Master Drainage Plan facilities, namely, Romoland MDP Line B. The District will accept ownership of such facilities on written request of the City. Facilities must be constructed to District standards, and District plan check and inspection will be required for District acceptance. Plan check, inspection, and administrative fees will be required. E-2

☐ This project proposes channels, storm drains 36 inches or larger in diameter, or other facilities that could be considered regional in nature and/or a logical extension of the adopted Perris Valley Master Drainage Plan. The District would consider accepting ownership of such facilities on written request of the City. Facilities must be constructed to District standards, and District plan check and inspection will be required for District acceptance. Plan check, inspection, and administrative fees will be required.

☒ This project is located within the limits of the District's ☐Perris Valley ☐San Jacinto River ☐ Homeland/Romoland Line A ☒Homeland/Romoland Line B Area Drainage Plan for which E-3

drainage fees have been adopted. If the project is proposing to create additional impervious surface area, applicable fees should be paid by cashier's check, wire transfer or online payment only to the Flood Control District or City prior to issuance of grading or building permits. Fees to be paid should be at the rate in effect at the time of issuance of the actual permit. E-3

☐ An encroachment permit shall be obtained for any construction related activities occurring within District right of way or facilities, namely, _____. For further information, contact the District's Encroachment Permit Section at 951.955.1266.

☐ The District's previous comments are still valid.

GENERAL INFORMATION

This project may require a National Pollutant Discharge Elimination System (NPDES) permit from the State Water Resources Control Board. Clearance for grading, recordation, or other final approval should not be given until the City has determined that the project has been granted a permit or is shown to be exempt. E-4

If this project involves a Federal Emergency Management Agency (FEMA) mapped floodplain, then the City should require the applicant to provide all studies, calculations, plans, and other information required to meet FEMA requirements, and should further require the applicant obtain a Conditional Letter of Map Revision (CLOMR) prior to grading, recordation, or other final approval of the project and a Letter of Map Revision (LOMR) prior to occupancy. E-5

If a natural watercourse or mapped floodplain is impacted by this project, the City should require the applicant to obtain a Section 1602 Agreement from the California Department of Fish and Wildlife and a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers, or written correspondence from these agencies indicating the project is exempt from these requirements. A Clean Water Act Section 401 Water Quality Certification may be required from the local California Regional Water Quality Control Board prior to issuance of the Corps 404 permit. E-6

Very truly yours,

Deborah de Chambeau

DEBORAH DE CHAMBEAU
Engineering Project Manager

ec: Riverside County Planning Department
Attn: Phayvanh Nanthavongdouangsy

AMR:blm

JASON E. UHLEY
General Manager-Chief Engineer

1995 MARKET STREET
RIVERSIDE, CA 92501
951.955.1200
951.788.9965 FAX
www.rcflood.org

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

250555

April 11, 2023

Comment Letter F

City of Perris
Planning Department
135 North D Street
Perris, CA 92570

Attention: Ms. Lupita Garcia

Re: CUP 22-05023, APNs 329-020-033, 329-020-034, 329-020-044 and 329-020-046

The Riverside County Flood Control and Water Conservation District (District) does not normally recommend conditions for land divisions or other land use cases in incorporated cities. The District also does not plan check City land use cases or provide State Division of Real Estate letters or other flood hazard reports for such cases. District comments/recommendations for such cases are normally limited to items of specific interest to the District including District Master Drainage Plan facilities, other regional flood control and drainage facilities which could be considered a logical component or extension of a master plan system, and District Area Drainage Plan fees (development mitigation fees). In addition, information of a general nature is provided.

F-1

The District's review is based on the above-referenced project transmittal, received March 29, 2023. The District **has not** reviewed the proposed project in detail, and the following comments do not in any way constitute or imply District approval or endorsement of the proposed project with respect to flood hazard, public health and safety, or any other such issue:

☐ This project would not be impacted by District Master Drainage Plan facilities, nor are other facilities of regional interest proposed.

☒ This project involves District proposed Master Drainage Plan Facilities, namely, Romoland Master Drainage Plan Facility Line B. The District will accept ownership of such facilities on written request by the City. The Project Applicant shall enter into a cooperative agreement establishing the terms and conditions of inspection, operation, and maintenance with the District and any other maintenance partners. Facilities must be constructed to District standards, and District plan check and inspection will be required for District acceptance. Plan check, inspection, and administrative fees will be required. All regulatory permits (and all documents pertaining thereto, e.g., Habitat Mitigation and Monitoring Plans, Conservation Plans/Easements) that are to be secured by the Applicant for both facility construction and maintenance shall be submitted to the District for review. The regulatory permits' terms and conditions shall be approved by the District prior to improvement plan approval, map recordation, or finalization of the regulatory permits. There shall be no unreasonable constraint upon the District's ability to operate and maintain the flood control facility(ies) to protect public health and safety.

F-2

☐ This project proposes channels, storm drains 36 inches or larger in diameter, or other facilities that could be considered regional in nature and/or a logical extension a District's facility, the District would consider accepting ownership of such facilities on written request by the City. The Project Applicant shall enter into a cooperative agreement establishing the terms and conditions of inspection, operation, and maintenance with the District and any other maintenance partners. Facilities must be constructed to District standards, and District plan check and inspection will be required for District acceptance. Plan check, inspection, and administrative fees will be required. The regulatory permits' terms and conditions shall be approved by the District prior to improvement plan approval, map recordation, or finalization of the regulatory permits. There shall be no unreasonable constraint upon the District's ability to operate and maintain the flood control facility(ies) to protect public health and safety.

☒ This project is located within the limits of the District's ☐Perris Valley ☒San Jacinto River ☐Homeland/Romoland Line A ☒ Homeland/Romoland Line B Area Drainage Plan for which drainage fees have been adopted. If the project is proposing to create additional impervious surface area, applicable fees should be paid (in accordance with the Rules and Regulations for Administration of Area Drainage Plans) to the Flood Control District or City prior to issuance of grading or building permits. Fees to be paid should be at the rate in effect at the time of issuance of the actual permit. F-3

☐ An encroachment permit shall be obtained for any future construction related activities occurring within District right of way or facilities, namely, _____. If a proposed storm drain connection exceeds the hydraulic performance of the existing drainage facilities, mitigation will be required. For further information, contact the District's Encroachment Permit Section at 951.955.1266.

☒ The District's previous comments dated February 16, 2022 are still valid. F-4

GENERAL INFORMATION

This project may require a National Pollutant Discharge Elimination System (NPDES) permit from the State Water Resources Control Board. Clearance for grading, recordation, or other final approval should not be given until the City has determined that the project has been granted a permit or is shown to be exempt. F-5

If this project involves a Federal Emergency Management Agency (FEMA) mapped floodplain, then the City should require the applicant to provide all studies, calculations, plans, and other information required to meet FEMA requirements, and should further require the applicant obtain a Conditional Letter of Map Revision (CLOMR) prior to grading, recordation, or other final approval of the project and a Letter of Map Revision (LOMR) prior to occupancy. F-6

The project proponent shall bear the responsibility for complying with all applicable mitigation measures defined in the California Environmental Quality Act (CEQA) document (i.e., Negative Declaration, Mitigated Negative Declaration, Environmental Impact Report) and/or Mitigation Monitoring and Reporting Program, if a CEQA document was prepared for the project. The project proponent shall also bear the responsibility for complying with all other federal, state, and local environmental rules and regulations that may apply. F-7

If a natural watercourse or mapped floodplain is impacted by this project, the City should require the applicant to obtain a Section 1602 Agreement from the California Department of Fish and Wildlife and a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers, or written correspondence from these agencies indicating the project is exempt from these requirements. A Clean Water Act Section 401 Water Quality Certification may be required from the local California Regional Water Quality Control Board prior to issuance of the Corps 404 permit. F-8

Very truly yours,

Amy McNeill

AMY MCNEILL
Engineering Project Manager

ec: Riverside County Planning Department
Attn: Timothy Wheeler

EM:mm

Comment Letter G

From:	Sahar Ghadimi
To:	Lupita Garcia; Russell Pierce; Dionisios Glentis
Cc:	Sam Wang
Subject:	RE: CUP22-05023 Mapes and Trumble MND
Date:	Tuesday, April 11, 2023 7:51:13 AM
Attachments:	image001.png image002.png image003.png image004.png image005.png image006.png

Dear Russ and Dio,
I hope this email finds you well.

I'm Sahar Ghadimi from SCAQMD, I just wanted to remind you for the technical data request, so I will be able to proceed with the Notice of Intent to Adopt a Mitigated Negative Declaration (NOI/MND) for the **Proposed Conditional Use Permit No. 22-05023** project (Mapes and Trumble Industrial Facility Project in the City of Perris-Warehouse). The public commenting period is from 03/31/23– **05/01/23**.

Please provide an electronic copy of any live modeling and emission calculation files (complete files, not summaries) that were used to quantify the air quality impacts from construction and/or operation of the Proposed Project as applicable, including the following:

- CalEEMod Input Files (.csv files);

  It seems that the CalEEMod was used for this project in **Appendix A_AQ-GHG-Energy (APPENDIX A CALEEMOD PRINTOUTS)**

- Live EMFAC output files;

  Appendix A_AQ-GHG-Energy (APPENDIX A CALEEMOD PRINTOUTS)

- Any emission calculation file(s) (live version of excel file(s); no PDF) used to calculate the Project's emission sources (i.e. truck operations);

- AERMOD Input and Output files, including AERMOD View file(s) (.isc);

  It seems that the AERMOD was used for this project in **Appendix B_Health Risk Assessment (Page 5)**

- HARP Input and Output files and/or cancer risk calculation files (live version of excel file(s); no PDF) used to calculate cancer risk, and chronic and acute hazards from the Project.

G-1

It seems that the cancer risk assessment has been performed for this project in **Appendix B_Health Risk Assessment (Page 7)**

G-1

- Any other files related to post-processing done outside of AERMOD to calculate pollutant-specific concentrations (if applicable).

You may send the above-mentioned files via a **Dropbox link** in which they may be accessed and downloaded by South Coast AQMD staff by **05/13/23**. Without all files and supporting documentation, South Coast AQMD staff will be unable to complete a review of the air quality analyses in a timely manner. Any delays in providing all supporting documentation will require additional time for review beyond the end of the comment period.

If you have any questions regarding this request, please contact me.

Thank you,

From: Lupita Garcia <lgarcia@cityofperris.org>
Sent: Thursday, April 6, 2023 8:42 AM
To: Russell Pierce <rpierce@rdpdev.com>; Dionisios Glentis <Dionisios.Glentis@lsa.net>
Cc: Sahar Ghadimi <sghadimi@aqmd.gov>; Sam Wang <swang1@aqmd.gov>
Subject: CUP22-05023 Mapes and Trumble MND

Good morning Russ and Dio,

I hope this email finds you well. I received a call from Sahar Ghadimi with South Coast AQMD (copied in this email). She is looking for the information listed below to complete the MND review. Is it possible to provide the items listed below electronically? I appreciate your help, please let me know if you have any questions or need anything else.

- **CalEEMod Input Files (.csv files);**
- **Live EMFAC output files;**
- **Any emission calculation file(s) (live version of excel file(s); no PDF) used to calculate the Project's emission sources (i.e. truck operations).**

Thank you,

Lupita Garcia
Associate Planner
Development Services Dept

Phone: (951) 943-5003 ext.

236
Email:
lgarcia@cityofperris.org
Web: **www.cityofperris.org**
Available: Tues-Fri 7:00am - 6:00pm

Below are helpful links:

Link for City applications: https://www.cityofperris.org/our-city/city-hall/city-forms/-folder-155

Link for City cannabis applications: https://www.cityofperris.org/our-city/city-hall/city-forms/-folder-147

Link for City fee schedule:
https://www.cityofperris.org/home/showpublisheddocument/2537/637217201195900000

Link for City Development Impact Fees:
https://www.cityofperris.org/home/showpublisheddocument/13652/637775940661530000

Link for City Municipal Code: https://library.municode.com/ca/perris/codes/code_of_ordinances

Link for City Specific Plans: https://www.cityofperris.org/departments/development-services/specific-plans

Link for City General Plan, Special Studies, and Policy Documents:
https://www.cityofperris.org/departments/development-services/general-plan

Link for CEQA Documents in Public Review:
https://www.cityofperris.org/departments/development-services/planning/environmental-documents-for-public-review

Comment Letter H

BLUM, COLLINS & HO LLP
ATTORNEYS AT LAW
AON CENTER
707 WILSHIRE BOULEVARD
SUITE 4880
LOS ANGELES, CALIFORNIA 90017
(213) 572-0400

April 28, 2023

Lupita Garcia
Associate Planner
City of Perris Planning Division
135 North "D" Street
Perris, California 92570

VIA EMAIL TO:
lgarcia@cityofperris.org

*Subject: Comments on Mapes and Trumble Industrial Facility MND (SCH NO. 2023040023***)**

Dear Ms. Garcia,

Thank you for the opportunity to comment on the Mitigated Negative Declaration (MND) for the proposed Maps and Trumble Industrial Facility Project. Please accept and consider these comments on behalf of Golden State Environmental Justice Alliance (GSEJA). Also, Golden State Environmental Justice Alliance formally requests to be added to the public interest list regarding any subsequent environmental documents, public notices, public hearings, and notices of determination for this project. Send all communications to Golden State Environmental Justice Alliance P.O. Box 79222 Corona, CA 92877. H-1

1.0 Summary

The project proposes the construction and operation of one 396,000 square foot (sf) industrial warehouse building consisting of 12,000 sf of office area and 384,000 sf of warehouse area on a 19.16 acre site. The building proposes 45 truck/trailer loading dock doors, 79 truck/trailer parking spaces and 125 passenger vehicle parking spaces. H-2

2.0 Project Description

The Project Description states that "according to the project conceptual grading plans, approximately 28,891 cubic yards of soil import would be required during the grading phase of construction for excavation, compaction, and rough grading in order to raise the site one foot above the 100-year flood plain elevation of 1,420 as identified in FEMA's Flood Insurance Rate Map (FIRM) Panel 06065C1440H." There is no mechanism for public verification of this conclusion, such as a grading plan, included in the MND. An EIR must be prepared to include a grading plan to support the conclusion that the project will only require 28,891 cubic yards of soil import. H-3

The MND does not include a floor plan or conceptual grading plan. The basic components of a Planning Application include a site plan, floor plan, conceptual grading plan, and elevations. The MND has excluded the proposed floor plan and conceptual grading plan from public review, which does not comply with CEQA's requirements for adequate informational documents and meaningful disclosure (CEQA § 15121 and 21003(b)). An EIR must be prepared to include these informational items. H-4

3.5 Air Quality, 3.8 Energy, and 3.10 Greenhouse Gas Emissions

Please refer to attachments from SWAPE for a complete technical commentary and analysis. H-5

The MND does not include for analysis relevant environmental justice issues in reviewing potential impacts, including cumulative impacts from the proposed project. According to CalEnviroScreen 3.0, CalEPA's screening tool that ranks each census tract in the state for pollution and socioeconomic vulnerability, the proposed project's census tract (6065042730) is highly burdened by pollution. The surrounding community, including sensitive receptors such as Big League Dreams baseball stadium to the north and residences to the east, bears the impact of multiple sources of pollution and is more polluted than average on every pollution indicator measured by CalEnviroScreen. For example, the project census tract ranks in the 95th percentile for ozone burden, the 51st percentile for particulate matter (PM) 2.5 burden, 43rd percentile for diesel PM burden, and 82nd percentile for traffic burden. All of these environmental factors are typically attributed to heavy truck activity in the area. Ozone can cause lung irritation, inflammation, and worsening of existing chronic health conditions, even at low levels of exposure[1]. The very small particles of diesel PM can reach deep into the lung, where they can contribute to a range of health problems. These include irritation to the eyes, throat and nose, heart and lung disease, and lung cancer[2]. H-6

Further, the project's census tract is a diverse community including 76% Hispanic residents, whom are especially vulnerable to the impacts of pollution. The community has a high rate of low educational attainment, meaning 86% of the census tract over age 25 has not attained a high school diploma, which is an indication that they may lack health insurance or access to medical care. The community also has a high rate of poverty, meaning 88% of the households in the census tract have a total income before taxes that is less than the poverty level. Income can affect health when people cannot afford healthy living and working conditions, nutritious food and necessary medical H-7

[1] OEHHA Ozone https://oehha.ca.gov/calenviroscreen/indicator/air-quality-ozone
[2] OEHHA Diesel Particulate Matter https://oehha.ca.gov/calenviroscreen/indicator/diesel-particulate-matter

care[3]. Poor communities are often located in areas with high levels of pollution[4]. Poverty can cause stress that weakens the immune system and causes people to become ill from pollution[5]. Living in poverty is also an indication that residents may lack health insurance or access to medical care. Medical care is vital for this census tract as it ranks in the 73rd percentile for incidence of cardiovascular disease. The community also has a high rate of linguistic isolation, meaning 44% of the census tract speaks little to no English and faces further inequities as a result.

H-7

California's Building Energy Code Compliance Software (CBECC) is the State's only approved energy compliance modeling software for non-residential buildings in compliance with Title 24[6]. CalEEMod is not listed as an approved software. The CalEEMod-based modeling in the MND and appendices does not comply with the 2022 Building Energy Efficiency Standards and under-reports the project's significant Energy impacts and fuel consumption to the public and decision makers. Since the MND did not accurately or adequately model the energy impacts in compliance with Title 24, a finding of significance must be made. An EIR with modeling using the approved software (CBECC) must be circulated for public review in order to adequately analyze the project's significant environmental impacts. This is vital as the MND utilizes CalEEMod as a source in its methodology and analysis, which is clearly not the approved software.

H-8

3.13 Land Use and Planning

An EIR must be prepared to provide a quantified analysis of the project's growth within the General Plan to determine if it exceeds the buildout scenario for its Planning Area within the General Plan and the General Plan as a whole, in accordance with Table LU-28: Building Area by Land Use Designation, Table LU-29: General Plan Population Projections, and Table LU-30: General Plan Employment Projections of the City's General Plan Land Use Element, including all cumulative development and projects "in the pipeline." The project site is located in Planning Area 9 of the General Plan. Table LU-28 states Planning Area 9 Business Park designation will construct 211,000 sf by year 2030 and 656,000 sf total at buildout. The proposed project is 396,000 sf, which is nearly double the total building area permitted in Planning Area 9 by 2030. Table LU-28 states that citywide the Business Park designation will construct 1,302,144 sf by year 2030 and 5,641,767 sf total at buildout. An EIR must be prepared to state that the proposed project exceeds the General Plan growth estimates for Planning Area 9 and include a finding of significance for this reason, as well as provide citywide building area calculations on the Business Park designation status. Further, since the proposed project exceeds the building area growth in Planning Area 9,

H-9

[3] OEHHA Poverty https://oehha.ca.gov/calenviroscreen/indicator/poverty
[4] Ibid.
[5] Ibid.
[6] California Energy Commission 2022 Energy Code Compliance Software https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-1

an EIR must be prepared that does not tier in any way from the General Plan EIR because the project does not comply with the General Plan and was not accounted for by its EIR.

H-9

Further, the MND does not provide a consistency analysis with all land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. The project has significant potential to conflict with many of these items, including but not limited to the following from the General Plan:

1. Policy HC 1.5 On an ongoing basis, identify and address health inequities in Perris (i.e. unjust barriers that result in differences in environmental conditions and health outcomes) and strive to provide a high quality of life for all residents, regardless of income, age or ethnicity.

2. Policy HC 1.6 Encourage the attraction and retention of high quality grocery stores and other healthy food purveyors as an economic development strategy for the City. Healthy food outlets include full-service grocery stores, regularly-held farmer's markets, fruit and vegetable markets, and convenience stores or corner stores that sell a significant proportion of healthy food.

3. Policy HC 2.4 Promote development patterns and policies that: Reduce commute times.

4. Policy HC 2.6 Encourage land use and urban design to promote physical activity, provide access to nutritious foods, and reduce air pollution.

5. Goal HC-5: Healthy Economy – Encourage businesses to provide meaningful employment opportunities to residents.

6. Policy HC 5.1: Develop programs to attract and retain industries that can provide a living wage, provide health insurance benefits, and meet existing levels of workforce education.

7. Safety Element Implementation Measure I.D.2: Continue to notify March Air Reserve Base of new development project applications and consider their input prior to making land use decisions.

8. Environmental Justice Goal 3.1: A community that reduces the negative impacts of land use changes, environmental hazards and climate change on disadvantaged communities.

9. Environmental Justice Goal 3.2: A community that actively works to reduce the impacts of poor air quality.

H-10

10. Environmental Justice Goal 6.2 Policy 2: Discourage development in proximity to sensitive land uses (e.g., schools, hospitals, homes, and long-term care facilities) near source point pollution sources that impact health, including freeways and hazardous waste sites.

H-10

Additionally, the MND has not provided any consistency analysis with SCAG's 2020-2045 Connect SoCal RTP/SCS. Due to errors in modeling as noted throughout this comment letter and the fact that the project exceeds the General Plan building area growth for Planning Area 9, the proposed project has signifiant potential for inconsistency with Goal 5 to reduce greenhouse gas emissions and improve air quality, Goal 6 to support healthy and equitable communities, and Goal 7 to adapt to a changing climate. Because the project exceeds the growth projections of the General Plan, the project was not accounted for in the RTP/SCS. An EIR must be prepared to inclu revised, accurate modeling and a consistency analysis with all goals of SCAG's 2020-2045 Connect SoCal RTP/SCS.

H-11

3.16 Population and Housing

The MND states that the proposed project will generate 259 employees. The methodology for this calculation works backwards from the ITE trip generation rates for a warehouse facility. This not an appropriate calculation for employment generation and local data is available from SCAG. SCAG's Employment Density Study[7] provides the following applicable employment generation rates for Riverside County:

Warehouse: 1 employee per 581 square feet
Office: 1 employee per 481 square feet

Applying these ratios results in the following calculation:

Office: 12,000 sf / 481 sf = 25

Warehouse: 384,000 sf / 581 = 661

Total: 686 employees

Utilizing SCAG's Employment Density Study ratios, the proposed project will generate 686 employees. The MND utilizes uncertain and misleading language which does not provide any meaningful analysis of the project's population and employment generation. In order to comply with CEQA's requirements for meaningful disclosure, an EIR must be prepared to provide an accurate estimate of employees generated by all uses of the proposed project. It must

H-12

[7] SCAG Employment Density Study
http://www.mwcog.org/file.aspx?A=QTTlTR24POOOUIw5mPNzK8F4d8djdJe4LF9Exj6lXOU%3D

also provide demographic and geographic information on the location of qualified workers to fill these positions.

H-12

SCAG's Connect SoCal Demographics and Growth Forecast[8] notes that the City will add 10,300 jobs between 2016 - 2045. Utilizing SCAG's Employment Density Study ratios calculation of 686 employees, the project represents 6.6% of the City's employment growth from 2016 - 2045. A single project accounting for this amount of the projected employment over 29 years represents a significant amount of growth. An EIR must be prepared to include this analysis, and also provide a cumulative analysis discussion of projects approved since 2016 and projects "in the pipeline" to determine if the project will exceed SCAG's employment growth forecast for the City. For example, other recent industrial projects such as Duke Warehouse Patterson and Nance (1,333 employees) Harley Knox Commerce Center (152 employees), PVCCSP Amendment No. 13 (603 employees), Core 5 Rider Warehouse (432 employees), First Industrial Warehouse at Rider (562 employees), Perris and Morgan 3 Industrial Buildings (494 employees), First Industrial at Wilson 1 (526 employees), First Industrial at Wilson 2 (276 employees), IDI Rider Warehouses 2 and 4 (1,313 employees), Ramona-Indian Warehouse (440 employees), Redlands East Warehouse (442 employees), Redlands West Warehouse (592 employees), Ramona-Brennan Warehouse (287 employees), Ramona Gateway (997 employees), and First Industrial at Wilson DPR 22-017 (194 employees) combined with the proposed project will cumulatively generate 10,346 employee which is 100.4% of the City's SCAG employment growth forecast over 29 years. These tota increase exponentially when commercial development activity is added to the brief list of industrial activity above. An EIR must be prepared to include this information for analysis, and also provide a cumulative analysis discussion of projects approved since 2016 and projects "in the pipeline" to determine if the proposed project will exceed the employment/population growth forecasts by SCAG and/or the City's General Plan.

H-13

Notably, Table LU-30: General Plan Employment Projections of the General Plan states that Planning Area 9 (all land use designations combined) will have 1,720 employees at year 2030 and 7,801 employees at buildout. All Planning Areas of the City combined will generate 70,164 employees at buildout. An EIR must be prepared to demonstrate whether the project exceeds these totals cumulatively with all other projects approved since the time of General Plan adoption (April 26, 2005) in order to provide an adequate and accurate environmental analysis.

[8] SCAG Connect SoCal Demographics and Growth Forecast adopted September 3, 2020 https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf?1606001579

3.19 Transportation and Traffic

The MND has underreported the quantity of VMT generated by the project operations. The operational nature of industrial/warehouse uses involves high rates of truck/trailer/delivery van VMT due to traveling from large import hubs to regional distribution centers to smaller industrial parks and then to their final delivery destinations. Once employees arrive at work at the proposed fulfillment center, they will conduct their jobs by driving delivery vans across the region as part of the daily operations as a fulfillment center, which will drastically increase project-generated VMT. The project's truck/trailer and delivery van activity is unable to utilize public transit or active transportation and it is misleading to the public and decision makers to exclude this activity from VMT analysis. Table 4.2 Operational Mobile Sources Trip Summary of the CalEEMod output sheets in the Air QualityAppendix indicates that the project will generate approximately 5,277,407 annual VMT (5,277,407 / 365 days = 14,458 daily total VMT). This quantity of VMT vastly exceeds the VMT analysis report of 26 VMT per employee. The project's actual VMT generated is not consistent with the significance threshold and legislative intent of SB 743 to reduce greenhouse gas emissions by reducing VMT. An EIR must be prepared to reflect a quantified VMT analysis that includes all truck/trailer and delivery van activity in order to provide an adequate and accurate environmental analysis.

H-14

The MND has not adequately analyzed the project's potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses; or the project's potential to result in inadequate emergency access.

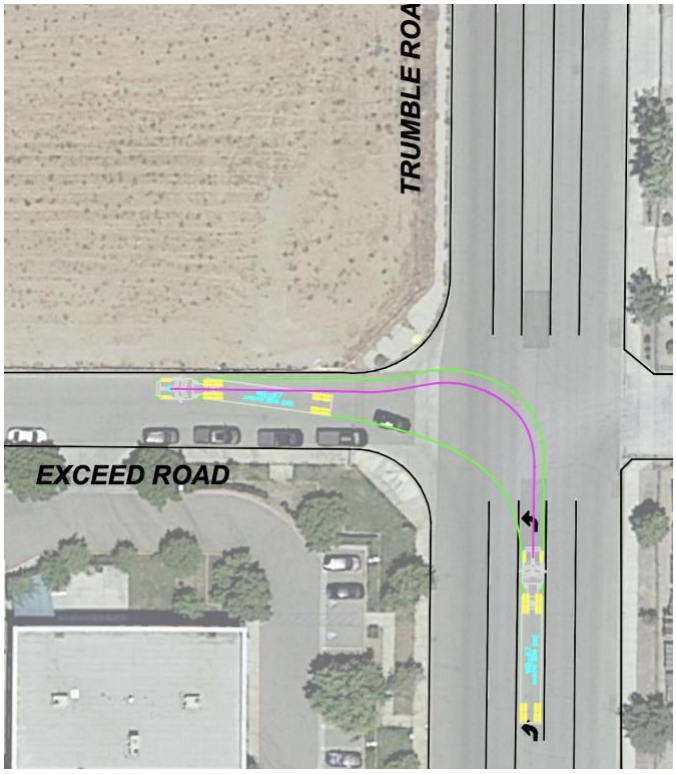
Figure 4: Proposed Conceptual Site Plan in the MND depicts two heavy trucks maneuvering (one truck entering the site and one truck exiting the site) at the truck access point to the project site on Exceed Road. The modeling lines overlap, indicating that the trucks will collide and there is not sufficient maneuvering space. Additionally, the truck that is exiting the site is shown to overlap with a landscape planter, which further demonstrates that the project site does not provide adequate maneuvering space.

H-15

The MND also excludes vital information and analysis from Appendix E: Traffic Study. Figure 10-1: Truck Turning Template- Ingress Trumble Road/Exceed Road-Sturgeon Electric Driveway within Appendix E depicts a heavy truck maneuvering to turn left onto Exceed Road from Trumble Road. Due to the availability of street parking on Exceed Road, there is not enough space available for the heavy truck to maneuver in the area. As shown in Figure 10-1, the available space

H-16

on Exceed Road cannot accommodate the heavy truck, street parking, and a passenger car

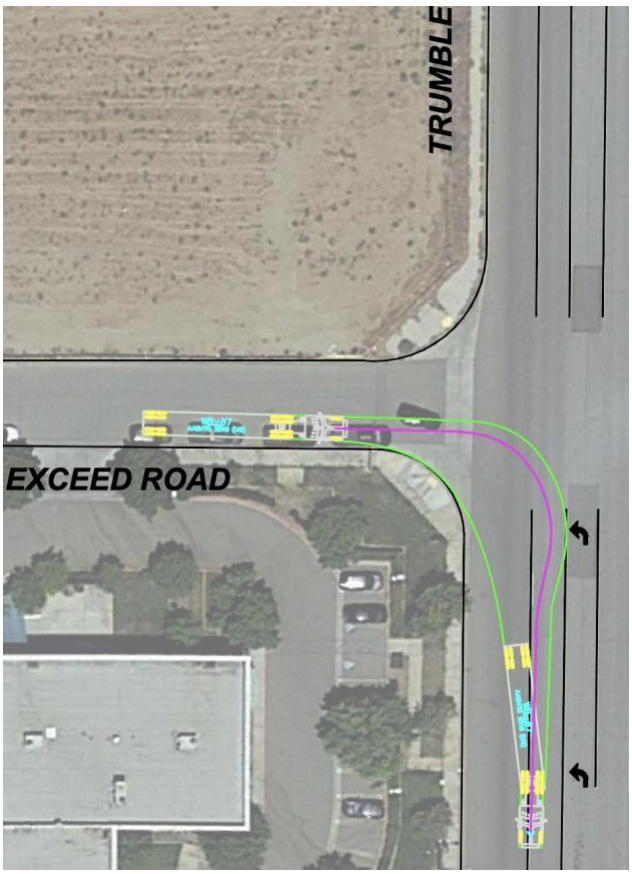


attempting to turn onto Trumble Road.

Source: Figure 10-1 within Appendix E

H-16

As shown in Figure 10-2: Truck Turning Template- Egress Trumble Road/Exceed Road-Sturgeon Electric Driveway, the heavy truck needs to utilize all of the street parking area in order to turn



onto Trumble Road.

Source: Figure 10-2 within Appendix E

The Traffic Study states that the following must be required in order to accommodate truck maneuvering on Exceed Road:

"The on-street parking provision needs to be removed along Exceed Road as Follows:

- Along the southern edge of Exceed Road, on-street parking provision needs to be removed between the intersection of Trumble Road/Exceed Road-Sturgeon Electric Driveway and the easterly driveway for Brenthel Industries project (approximately 100 feet).
- Similarly, along the northern edge of Exceed Road, on-street parking provision needs to be removed for approximately 100 feet from the intersection of Trumble Road/Exceed Road- Sturgeon Electric Driveway.

H-16

The MND excluded this information from Appendix E and is an inadequate informational document. It also has not included these as mitigation in the MMRP. This means that significant and unavoidable impacts will occur and an EIR must be prepared to include a finding of significance due to this significant and unavoidable impact.

Further, Figure 10-2 depicts a truck exiting Exceed Road and turning onto Trumble Road. There is not sufficient maneuvering space for the truck even when street parking is removed. Figure 10-2 models the truck maneuvering as though the existing street parking does not exist. The truck turning onto southbound Trumble Road requires space on the northbound Trumble Road left turn lane in order to complete its turn. The truck cannot complete the turn without colliding into another car on northbound Trumble Road. This is not addressed in the MND and an EIR must be prepared with a finding of significance due to this significant and unavoidable impact.

H-16

3.22 Mandatory Findings of Significance

An EIR must be prepared to include a cumulative analysis discussion here to demonstrate the impact of the proposed project in a cumulative setting. For example, other recent industrial projects such as Duke Warehouse Patterson and Nance (1,333 employees) Harley Knox Commerce Center (152 employees), PVCCSP Amendment No. 13 (603 employees), Core 5 Rider Warehouse (432 employees), First Industrial Warehouse at Rider (562 employees), Perris and Morgan 3 Industrial Buildings (494 employees), First Industrial at Wilson 1 (526 employees), First Industrial at Wilson 2 (276 employees), IDI Rider Warehouses 2 and 4 (1,313 employees), Ramona-India.. Warehouse (440 employees), Redlands East Warehouse (442 employees), Redlands West Warehouse (592 employees), Ramona-Brennan Warehouse (287 employees), Ramona Gateway (997 employees), and First Industrial at Wilson DPR 22-017 (194 employees) combined with the proposed project will cumulatively generate 10,346 employees, which is 100.4% of the City's SCAG employment growth forecast over 29 years. These totals increase exponentially when commercial development activity is added to the brief list of industrial activity above. An EIR must be prepared to include this information for analysis, and also provide a cumulative analysis discussion of projects approved since 2016 and projects "in the pipeline" to determine if the proposed project will exceed the employment/population growth forecasts by SCAG and/or the City's General Plan.

Notably, Table LU-30: General Plan Employment Projections of the General Plan states that Planning Area 9 (all land use designations combined) will have 1,720 employees at year 2030 and 7,801 employees at buildout. All Planning Areas of the City combined will generate 70,164 employees at buildout. An EIR must be prepared to demonstrate whether the project exceeds these

H-17

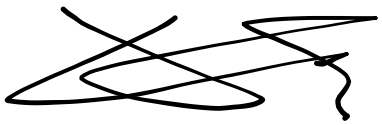
totals cumulatively with all other projects approved since the time of General Plan adoption (April 26, 2005) in order to provide an adequate and accurate environmental analysis. H-17

Additionally, an EIR must be prepared to provide a quantified analysis of the project's growth within the General Plan to determine if it exceeds the buildout scenario for its Planning Area within the General Plan and the General Plan as a whole, in accordance with Table LU-28: Building Area by Land Use Designation, Table LU-29: General Plan Population Projections, and Table LU-30: General Plan Employment Projections of the City's General Plan Land Use Element, including all cumulative development and projects "in the pipeline." The project site is located in Planning Area 9 of the General Plan. Table LU-28 states Planning Area 9 Business Park designation will construct 211,000 sf by year 2030 and 656,000 sf total at buildout. The proposed project is 396,000 sf, which is nearly double the total building area permitted in Planning Area 9 by 2030. Table LU-28 states that citywide the Business Park designation will construct 1,302,144 sf by year 2030 and 5,641,767 sf total at buildout. An EIR must be prepared to state that the proposed project exceeds the General Plan growth estimates for Planning Area 9 and include a finding of significance for this reason, as well as provide citywide building area calculations on the Business Park designation status. Further, since the proposed project exceeds the building area growth in Planning Area 9, an EIR must be prepared that does not tier in any way from the General Plan EIR because the project does not comply with the General Plan and was not accounted for by its EIR. H-18

Conclusion

For the foregoing reasons, GSEJA believes the MND is flawed and an EIR must be prepared for the proposed project and circulated for public review. Golden State Environmental Justice Alliance requests to be added to the public interest list regarding any subsequent environmental documents, public notices, public hearings, and notices of determination for this project. Send all communications to Golden State Environmental Justice Alliance P.O. Box 79222 Corona, CA 92877. H-19

Sincerely,



Gary Ho
Blum, Collins & Ho LLP

Attachments:
1. SWAPE Analysis

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Paul E. Rosenfeld, PhD
(310) 795-2335
prosenfeld@swape.com

April 28, 2023

Gary Ho
Blum Collins LLP
707 Wilshire Blvd, Ste. 4880
Los Angeles, CA 90017

Subject: Comments on the Mapes and Trumble Industrial Facility Project (SCH No. 2023040023)

Dear Mr. Ho,

We have reviewed the February 2023 Initial Study and Mitigated Negative Declaration ("IS/MND") for the Mapes and Trumble Industrial Facility Project ("Project") located in the City of Perris ("City"). The Project proposes to construct a 396,000-square-foot ("SF") warehouse on the 19.16-acre site.

Our review concludes that the IS/MND fails to adequately evaluate the Project's air quality, and health risk impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the potential air quality, and health risk impacts that the project may have on the environment.

H-20

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The IS/MND's air quality analysis relies on emissions calculated with the California Emissions Estimator Model ("CalEEMod") Version 2020.4.0 (p. 34).[1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated,

[1] "CalEEMod Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/download-model.

and "output files" are generated. These output files disclose to the reader what parameters are utilized in calculating the Project's air pollutant emissions and make known which default values are changed as well as provide justification for the values selected.

When reviewing the Project's CalEEMod output files, provided in the Air Quality, Energy, and Greenhouse Gas Analysis ("AQ, Energy, & GHG Analysis") as Appendix A to the IS/MND, we found that several model inputs were not consistent with information disclosed in the IS/MND. As a result, the Project's construction and operational emissions are underestimated. An EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

Unsubstantiated Reductions to Architectural and Area Coating Emission Factors

Review of the CalEEMod output files demonstrates that the "Mapes & Trumble Industrial Facility Project" model includes several reductions to the default architectural and area coating emission factors (see excerpt below) (Appendix A, pp. 66, 98, 124).

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblAreaCoating	Area_EF_Parking	100	50

As demonstrated above, the nonresidential interior, exterior, and parking architectural and area coating emission factors are reduced from the default values of 100- to 50-grams per liter ("g/L"). The CalEEMod User's Guide requires any changes to model defaults be justified.[2] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: H-20

> "Assume all coatings comply with SCAQMD Rule 1113." (Appendix A, pp. 65, 97, 123).

However, the changes to the architectural and area coating emission factors remain unsubstantiated as we cannot verify the accuracy of the revised architectural and area coating emission factors based on SCAQMD Rule 1113 alone. The SCAQMD Rule 1113 Table of Standards provides the required VOC limits (grams of VOC per liter of coating) for 57 different coating categories.[3] The VOC limits for each coating varies from a minimum value of 50 g/L to a maximum value of 730 g/L. We cannot verify that SCAQMD Rule 1113 substantiates reductions to the default coating values without more information regarding what category of coating would be used. As the IS/MND and associated documents fail to explicitly require the use of a specific type of coating, we are unable to verify the revised emission factors.

[2] "CalEEMod User's Guide Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[3] SCAQMD Rule 1113 Advisory Notice." SCAQMD, February 2016, *available at:* http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf?sfvrsn=24, p. 1113-14, Table of Standards 1.

These unsubstantiated reductions present an issue, as CalEEMod uses the architectural and area coating emission factors to calculate the Project's reactive organic gas/volatile organic compound ("ROG"/"VOC") emissions.[4] By including unsubstantiated reductions to the default architectural and area coating emission factors, the model may underestimate the Project's construction-related and operational ROG/VOC emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the "Mapes & Trumble Industrial Facility Project" model includes two changes to the default individual construction phase lengths (see excerpt below) (Appendix A, pp. 66, 98, 124).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	121.00
tblConstructionPhase	NumDays	20.00	42.00

As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix A, pp. 71, 102, 103, 128, 129).

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Site Preparation	Site Preparation	3/1/2023	3/14/2023	5	10
2	Grading	Grading	3/15/2023	4/25/2023	5	30
3	Building Construction	Building Construction	4/26/2023	6/18/2024	5	300
4	Architectural Coating	Architectural Coating	1/2/2024	6/18/2024	5	121
5	Paving	Paving	6/19/2024	8/15/2024	5	42

H-20

As demonstrated above, the architectural phase is increased by 505%, from the default value of 20 to 121 days, while the paving phase is increased by 110%, from the default value of 20 to 42 days. According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is:

> "Assume architectural coatings are applied during the building construction phase. Extended the paving phase due to the large paved area." (Appendix A, pp. 65, 97, 123).

Regarding the Project's anticipated construction schedule, the IS/MND states:

> "Construction of the project is anticipated to commence in spring of 2023 and be completed in the summer of 2024, resulting in a total construction duration of approximately 17 months." (p. 10).

Furthermore, the AQ & GHG Analysis provides the following construction schedule (see excerpt below) (p. 31, Table H):

[4] "CalEEMod User's Guide Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 36, 42.

Phase Name	Phase Start Date	Phase End Date	Number of Days
Site Preparation	3/1/2023	3/14/2023	10
Grading	3/15/2023	4/25/2023	30
Building Construction	4/26/2023	6/18/2024	300
Architectural Coating	1/2/2024	6/18/2024	121
Paving	6/19/2024	8/15/2024	42

Source: Compiled by LSA Associates, Inc. (November 2022).

However, the changes to the individual construction phase lengths remain unsubstantiated. While the IS/MND indicates the total construction duration of 17 months, the IS/MND fails to adequately justify the individual construction phase lengths. As presented above in Table H, the source for the construction schedule is the CalEEMod analysis provided by LSA Associates, Inc. This is incorrect, as according to the CalEEMod User's Guide:

> "CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA." [5]

The IS/MND only justifies the total construction duration of 17 months, and the AQ & GHG Analysis fails to adequately substantiate the revised individual construction phase lengths. Until additional information is provided regarding the changes to the paving and architectural coating construction phases, we cannot verify the revised construction schedule as included in the model.

These unsubstantiated changes present an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not for others. According to the CalEEMod User's Guide, each construction phase is associated with different emissions activities (see excerpt below).[6]

H-20

> ***Demolition*** involves removing buildings or structures.
>
> ***Site Preparation*** involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.
>
> ***Grading*** involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.
>
> ***Building Construction*** involves the construction of the foundation, structures and buildings.
>
> ***Architectural Coating*** involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.
>
> ***Paving*** involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.

By disproportionately extending the paving and architectural coating construction phase lengths without proper justification, the models assume there are a greater number of days to complete the

[5] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 13-14.
[6] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 32.

construction activities required by the prolonged phases. As a result, there will be less construction activities required per day and, consequently, less pollutants emitted per day. Therefore, the models underestimate the peak daily emissions associated with construction and should not be relied upon to determine Project significance.

Updated Analysis Indicates a Potentially Significant Air Quality Impact

In an effort to more accurately estimate the Project's construction-related emissions, we prepared an updated CalEEMod model, using the Project-specific information provided by the IS/MND. In our updated model, we omitted the unsubstantiated changes to the architectural and area coating emission factors.[7]

Our updated analysis estimates that the Project's construction-related VOC emissions would exceed the applicable South Coast Air Quality Management District ("SCAQMD") threshold of 75-pounds per day ("lbs/day"), as referenced by the IS/MND (see table below) (p. 36, Table 3.5-A).[8]

SWAPE Criteria Air Pollutant Emissions	
Construction	**VOC** (lbs/day)
IS/MND	19
SWAPE	190
% Increase	900%
SCAQMD Threshold	**75**
Exceeds?	***Yes***

H-20

As you can see in the table above, the Project's construction-related VOC emissions, as estimated by SWAPE, increase by approximately 900% and exceed the applicable SCAQMD significance threshold. Our updated model demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the IS/MND. An EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the surrounding environment.

Disproportionate Health Risk Impacts of Warehouses on Surrounding Communities

Upon review of the IS/MND and associated documents, we have determined that the development of the proposed Project would result in disproportionate health risk impacts on community members living, working, and going to school within the immediate area of the Project site. According to SCAQMD:

[7] See Attachment B for updated air modeling.
[8] "South Coast AQMD Air Quality Significance Thresholds." SCAQMD, April 2019, *available at*: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

> "Those living within a half mile of warehouses are more likely to include communities of color, have health impacts such as higher rates of asthma and heart attacks, and a greater environmental burden."[9]

In particular, the SCAQMD found that more than 2.4 million people live within a half mile radius of at least one warehouse, and that those areas not only experience increased rates of asthma and heart attacks, but are also disproportionately Black and Latino communities below the poverty line.[10] Another study similarly indicates that "neighborhoods with lower household income levels and higher percentages of minorities are expected to have higher probabilities of containing warehousing facilities."[11] Additionally, a report authored by the Inland Empire-based People's Collective for Environmental Justice and University of Redlands states:

> "As the warehouse and logistics industry continues to grow and net exponential profits at record rates, more warehouse projects are being approved and constructed in low-income communities of color and serving as a massive source of pollution by attracting thousands of polluting truck trips daily. Diesel trucks emit dangerous levels of nitrogen oxide and particulate matter that cause devastating health impacts including asthma, chronic obstructive pulmonary disease (COPD), cancer, and premature death. As a result, physicians consider these pollution-burdened areas 'diesel death zones.'"[12]

It is evident that the continued development of industrial warehouses within these communities poses a significant environmental justice challenge. However, the acceleration of warehouse development is only increasing despite the consequences on public health.

H-20

The development of the proposed warehouse would disproportionately contribute to and exacerbate the health conditions of residents in Riverside County. In April 2022, the American Lung Association ranked Riverside County as the second worst for ozone pollution in the nation.[13] This year, the County continues to face significant ozone pollution, as it has seen the second highest recorded Air Quality Index ("AQI") values for ground-level ozone in California.[14] The U.S. Environmental Protection Agency

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[9] "South Coast AQMD Governing Board Adopts Warehouse Indirect Source Rule." SCAQMD, May 2021, *available at:* http://www.aqmd.gov/docs/default-source/news-archive/2021/board-adopts-waisr-may7-2021.pdf?sfvrsn=9.

[10] "Southern California warehouse boom a huge source of pollution. Regulators are fighting back." Los Angeles Times, May 2021, *available at:* https://www.latimes.com/california/story/2021-05-05/air-quality-officials-target-warehouses-bid-to-curb-health-damaging-truck-pollution.

[11] "Location of warehouses and environmental justice: Evidence from four metros in California." Metro Freight Center of Excellence, January 2018, *available at:* https://www.metrans.org/assets/research/MF%201.1g_Location%20of%20warehouses%20and%20environmental%20justice_Final%20Report_021618.pdf, p. 21.

[12] "Warehouses, Pollution, and Social Disparities: An analytical view of the logistics industry's impacts on environmental justice communities across Southern California." People's Collective for Environmental Justice, April 2021, *available at:* https://earthjustice.org/sites/default/files/files/warehouse_research_report_4.15.2021.pdf, p. 4.

[13] "State of the Air 2022." American Lung Association, April 2022, *available at:* https://www.lung.org/research/sota/key-findings/most-polluted-places.

[14] "High Ozone Days." American Lung Association, 2022, *available at:* https://www.lung.org/research/sota/city-rankings/states/california.

("U.S. EPA") indicates that ozone, the main ingredient in "smog," can cause several health problems, which includes aggravating lung diseases and increasing the frequency of asthma attacks. [15]

An EIR should be prepared to evaluate the disproportionate impacts of the proposed warehouse on the community adjacent to the Project. In order to evaluate the cumulative air quality impact from the several warehouse projects proposed or built in a one-mile radius of the Project site, the EIR should prepare a cumulative health risk assessment ("HRA") to quantify the adverse health outcome from the effects of exposure to multiple warehouses.

Diesel Particulate Matter Emissions Inadequately Evaluated

The IS/MND conducts a health risk assessment ("HRA") evaluating the impacts from exposure to toxic air contaminant ("TAC") emissions from passenger cars and trucks during Project operation. Specifically, the IS/MND estimates that the maximum cancer risk posed to nearby, existing residential sensitive receptors as a result of Project operation would be 0.26 in one million, which would not exceed the SCAQMD significance threshold of 10 in one million (see excerpt below) (p. 41, Table 3.5-E).

Location	Maximum Cancer Risk	Maximum Non-cancer Chronic Risk (Hazard Index)	Maximum Non-cancer Acute Risk (Hazard Index)
Residential Risks	0.26 in 1 million	0.00006	0.00003
Big League Dreams Sports Complex User Risks	0.36 in 1 million	0.0001	0.00006
Worker Risks	0.40 in 1 million	0.001	0.0004

H-20

However, the IS/MND fails to mention or evaluate the Project's health risk impacts associated with Project construction. As such, the IS/MND's evaluation of the Project's potential health risk impacts, as well as the subsequent less-than-significant impact conclusion, is unreliable for four reasons.

First, the IS/MND fails to mention the exposure assumptions for the operational HRA, such as age sensitivity factors ("ASF") or fraction of time at home ("FAH") values whatsoever. Until the IS/MND substantiates the use of correct exposure assumptions, the HRA may underestimate the cancer risk posed to nearby, existing sensitive receptors because of Project operation. Furthermore, according to the *Risk Assessment Guidelines* provided by the Office of Environmental Health Hazard Assessment ("OEHHA"), the organization responsible for providing guidance on conducting HRAs in California, the IS/MND's model should have used the following equation:[16]

[15] "Health Effects of Ozone Pollution." U.S. EPA, May 2021, *available at:* https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution.

[16] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-7 Equation 8.2.4.

A. **Equation 8.2.4 A:** $RISK_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$

7. $RISK_{inh\text{-}res}$ = Residential inhalation cancer risk
8. $DOSE_{air}$ = Daily inhalation dose (mg/kg-day)
9. CPF = Inhalation cancer potency factor (mg/kg-day^{-1})
10. ASF = Age sensitivity factor for a specified age group (unitless)
11. ED = Exposure duration (in years) for a specified age group
12. AT = Averaging time for lifetime cancer risk (years)
13. FAH = Fraction of time spent at home (unitless)

However, the IS/MND and associated documents fail to include a dose and risk equation to calculate the Project's operational cancer risks. As such, we cannot verify that the IS/MND's operational HRA is accurate, and the Project's cancer risks may be underestimated.

Second, by failing to prepare a quantified construction HRA, the IS/MND is inconsistent with CEQA's requirement to correlate the increase in emissions that the Project would generate to the adverse impacts on human health caused by those emissions. This is incorrect, as construction of the proposed Project will produce DPM emissions through the exhaust stacks of construction equipment over a total construction duration of 17 months (p. 10). However, the IS/MND fails to evaluate the potential Project-generated TACs or indicate the concentrations at which such pollutants would trigger adverse health effects. Without making a reasonable effort to connect the Project's construction-related TAC emissions to the potential health risks posed to nearby receptors, the IS/MND is inconsistent with CEQA's requirement to correlate the increase in emissions generated by the Project with the potential adverse impacts on human health. H-20

Third, the State of California Department of Justice recommends that warehouse projects prepare a quantitative HRA pursuant to the Office of Environmental Health Hazard Assessment ("OEHHA"), the organization responsible for providing guidance on conducting HRAs in California, as well as local air district guidelines.[17] OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015. This guidance document describes the types of projects that warrant the preparation of an HRA. Specifically, OEHHA recommends that all short-term projects lasting at least 2 months assess cancer risks.[18] Furthermore, according to OEHHA:

[17] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice, *available at*: https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/warehouse-best-practices.pdf, p. 6.
[18] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.

> "Exposure from projects lasting more than 6 months should be evaluated for the duration of the project. In all cases, for assessing risk to residential receptors, the exposure should be assumed to start in the third trimester to allow for the use of the ASFs (OEHHA, 2009)."[19]

Thus, as the Project's anticipated construction duration exceeds the 2-month and 6-month requirements set forth by OEHHA, construction of the Project meets the threshold warranting a quantified HRA under OEHHA guidance and should be evaluated for the entire 17-month construction period. These recommendations reflect the most recent state health risk policies, and an EIR should be prepared to include an analysis of health risk impacts posed to nearby sensitive receptors from Project-generated DPM emissions.

Fourth, while the IS/MND includes a HRA evaluating the health risk impacts to nearby, existing receptors as a result of Project operation, the HRA fails to evaluate the combined lifetime cancer risk to nearby, existing receptors as a result of Project construction and operation together. According to OEHHA guidance "the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk at the receptor location."[20] However, the Project's HRA fails to sum each age bin to evaluate the total cancer risk over the course of the Project's total construction and operation. This is incorrect and an updated analysis should quantify the entirety of the Project's construction and operational health risks together and sum them to compare to the SCAQMD threshold of 10 in one million, as referenced by the IS/MND (p. 42).

H-20

Screening-Level Analysis Demonstrates Potentially Significant Health Risk Impact

In order to conduct our screening-level risk assessment we relied upon AERSCREEN, which is a screening level air quality dispersion model.[21] The model replaced SCREEN3, and AERSCREEN is included in the OEHHA and the California Air Pollution Control Officers Associated ("CAPCOA") guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs").[22, 23] A Level 2 HRSA utilizes a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed. If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach should be conducted prior to approval of the Project.

We prepared a preliminary HRA of the Project's construction-related health risk impact to residential sensitive receptors using the annual PM_{10} exhaust estimates from the IS/MND's CalEEMod output files. Consistent with recommendations set forth by OEHHA, we assumed residential exposure begins during

[19] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.
[20] "Guidance Manual for preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 8-4
[21] "Air Quality Dispersion Modeling - Screening Models," U.S. EPA, *available at:* https://www.epa.gov/scram/air-quality-dispersion-modeling-screening-models.
[22] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[23] "Health Risk Assessments for Proposed Land Use Projects." CAPCOA, July 2009, *available at:* http://www.valleyair.org/transportation/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.

the third trimester stage of life.[24] The IS/MND's CalEEMod model indicates that construction activities will generate approximately 231 pounds of DPM over the 533-day construction period.[25] The AERSCREEN model relies on a continuous average emission rate to simulate maximum downward concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over Project construction, we calculated an average DPM emission rate by the following equation:

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{230.5\ lbs}{533\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.00227\ g/s}$$

Using this equation, we estimated a construction emission rate of 0.00227 grams per second ("g/s"). Construction was simulated as a 19.16-acre rectangular area source in AERSCREEN, with approximate dimensions of 394- by 197-meters. A release height of three meters was selected to represent the height of stacks of operational equipment and other heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution. The population of Perris was obtained from U.S. 2021 Census data.[26]

The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project Site. The United States Environmental Protection Agency ("U.S. EPA") suggests that the annualized average concentration of an air pollutant be estimated by multiplying the single-hour concentration by 10% in screening procedures.[27] According to the IS/MND the nearest sensitive receptors are residences located 1,365 feet, or 416 meters, from the Project site (Appendix B, pp. 7). As such, the single-hour concentration estimated by AERSCREEN for Project construction is approximately 0.4800 µg/m^3 DPM at approximately 425 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.0480 µg/m^3 for Project construction at the nearest sensitive receptors.[28]

H-20

We calculated the excess cancer risk using applicable HRA methodologies prescribed by OEHHA, as recommended by SCAQMD.[29] Specifically, guidance from OEHHA and the California Air Resources Board ("CARB") recommends the use of a standard point estimate approach, including high-point estimate (i.e. 95th percentile) breathing rates and age sensitivity factors ("ASF") in order to account for the increased sensitivity to carcinogens during early-in-life exposure and accurately assess risk for susceptible subpopulations such as children. The residential exposure parameters, such as the daily breathing rates

[24] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.
[25] See Attachment C for health risk calculations.
[26] "Perris." U.S. Census Bureau, 2021, *available at:* https://datacommons.org/place/geoId/0656700.
[27] "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised." U.S. EPA, October 1992, *available at:* http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf.
[28] See Attachment D for AERSCREEN output files.
[29] "AB 2588 and Rule 1402 Supplemental Guidelines." SCAQMD, October 2020, *available at:* http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19, p. 2.

("BR/BW"), exposure duration ("ED"), age sensitivity factors ("ASF"), fraction of time at home ("FAH"), and exposure frequency ("EF") utilized for the various age groups in our screening-level HRA are as follows:

Exposure Assumptions for Residential Individual Cancer Risk

Age Group	Breathing Rate (L/kg-day)[30]	Age Sensitivity Factor[31]	Exposure Duration (years)	Fraction of Time at Home[32]	Exposure Frequency (days/year)[33]	Exposure Time (hours/day)
3rd Trimester	361	10	0.25	1	350	24
Infant (0 – 2)	1090	10	2	1	350	24
Child (2 – 16)	572	3	14	1	350	24
Adult (16 – 30)	261	1	14	0.73	350	24

For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose for each age group. Once determined, contaminant dose is multiplied by the cancer potency factor ("CPF") in units of inverse dose expressed in milligrams per kilogram per day (mg/kg/day^{-1}) to derive the cancer risk estimate. Therefore, to assess exposures, we utilized the following dose algorithm:

H-20

$$Dose_{AIR,per\ age\ group} = C_{air} \times EF \times \left[\frac{BR}{BW}\right] \times A \times CF$$

where:

$Dose_{AIR}$ = dose by inhalation (mg/kg/day), per age group
C_{air} = concentration of contaminant in air (µg/m3)
EF = exposure frequency (number of days/365 days)
BR/BW = daily breathing rate normalized to body weight (L/kg/day)
A = inhalation absorption factor (default = 1)

[30] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act." SCAQMD, October 2020, available at: http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19, p. 19; see also "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[31] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-5 Table 8.3.

[32] "Risk Assessment Procedures." SCAQMD, August 2017, available at: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.

[33] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 5-24.

CF = conversion factor (1x10-6, µg to mg, L to m3)

To calculate the overall cancer risk, we used the following equation for each appropriate age group:

$$Cancer\ Risk_{AIR} = Dose_{AIR} \times CPF \times ASF \times FAH \times \frac{ED}{AT}$$

where:

$Dose_{AIR}$ = dose by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific $(mg/kg/day)^{-1}$
ASF = age sensitivity factor, per age group
FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

Consistent with the 533-day construction schedule, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and first 1.21 years of the infantile stage of life (0 – 2 years). The results of our calculations are shown in the table below.

The Maximally Exposed Individual at an Existing Residential Receptor

Age Group	**Emissions Source**	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	Construction	0.25	0.0480	6.53E-07
	Construction	*1.21*	*0.0480*	*9.54E-06*
	Operation	*0.79*	*	*
Infant (0 - 2)	Total	2		9.54E-06
Child (2 - 16)	Operation	14	*	*
Adult (16 - 30)	Operation	14	*	*
Lifetime		**30**		**1.02E-05**

H-20

As demonstrated in the table above, the excess cancer risks to the 3rd trimester of pregnancy and infant receptors at the nearest sensitive receptor located approximately 425 meters away, over the course of Project construction, are approximately 0.653 and 9.54 in one million, respectively. The total excess cancer risk associated with Project construction is approximately 10.2 in one million. When summing the Project's construction-related cancer risk, as estimated by SWAPE, with the IS/MND's operational cancer risk of 0.26 in one million, we estimate an excess cancer risk of approximately 10.5 in one million over

the course of a 30-year residential lifetime (p. 41, Table 3.5-E).[34] The lifetime cancer risk exceeds the SCAQMD threshold of 10 in one million, thus resulting in a potentially significant impact not previously addressed or identified by the IS/MND.

An agency must include an analysis of health risks that connects the Project's emissions with the health risk posed by those emissions. Our analysis represents a screening-level HRA, which is known to be conservative and tends to err on the side of health protection. The purpose of the screening-level HRA is to demonstrate the link between Project-generated emissions and potential adverse health risk impacts. According to the U.S. EPA:

> "EPA's Exposure Assessment Guidelines recommend completing exposure assessments iteratively using a *tiered approach* to *'strike a balance between the costs of adding detail and refinement to an assessment and the benefits associated with that additional refinement' (U.S. EPA, 1992).*
>
> In other words, an assessment using basic tools (e.g., simple exposure calculations, default values, rules of thumb, conservative assumptions) can be conducted as the first phase (or tier) of the overall assessment (i.e., a screening-level assessment).
>
> The exposure assessor or risk manager can then determine whether the results of the screening-level assessment warrant further evaluation through refinements of the input data and exposure assumptions or by using more advanced models."[35]

H-20

As demonstrated above, screening-level analyses warrant further evaluation in a refined modeling approach. As our screening-level HRA demonstrates that construction and operation of the Project could result in a potentially significant health risk impact, an EIR should be prepared to include a refined health risk analysis which adequately and accurately evaluates health risk impacts associated with both Project construction and operation. If the refined analysis similarly concludes that the Project would result in a significant health risk impact, then additional mitigation measures should be incorporated to reduce the Project's potential impacts as described below.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

Our analysis demonstrates that the Project would result in potentially significant air quality and health risk impacts that should be mitigated further. In an effort to reduce the Project's emissions, we recommend the consideration of the following measures from the California Department of Justice Warehouse Project Best Practices document:[36]

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[34] Calculated: 10.2 in one million + 0.26 in one million = 10.5 in one million.
[35] "Exposure Assessment Tools by Tiers and Types - Screening-Level and Refined." U.S. EPA, *available at:* https://www.epa.gov/expobox/exposure-assessment-tools-tiers-and-types-screening-level-and-refined.
[36] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice, September 2022, *available at*: https://oag.ca.gov/system/files/media/warehouse-best-practices.pdf, p. 8 – 10.

- Requiring off-road construction equipment to be hybrid electric-diesel or zero emission, where available, and all diesel-fueled off-road construction equipment to be equipped with CARB Tier IV-compliant engines or better, and including this requirement in applicable bid documents, purchase orders, and contracts, with successful contractors demonstrating the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities.
- Prohibiting off-road diesel-powered equipment from being in the "on" position for more than 10 hours per day.
- Using electric-powered hand tools, forklifts, and pressure washers, and providing electrical hook ups to the power grid rather than use of diesel-fueled generators to supply their power.
- Designating an area in the construction site where electric-powered construction vehicles and equipment can charge.
- Limiting the amount of daily grading disturbance area.
- Prohibiting grading on days with an Air Quality Index forecast of greater than 100 for particulates or ozone for the project area.
- Forbidding idling of heavy equipment for more than three minutes.
- Keeping onsite and furnishing to the lead agency or other regulators upon request, all equipment maintenance records and data sheets, including design specifications and emission control tier classifications.
- Conducting an on-site inspection to verify compliance with construction mitigation and to identify other opportunities to further reduce construction impacts.
- Using paints, architectural coatings, and industrial maintenance coatings that have volatile organic compound levels of less than 10 g/L.
- Providing information on transit and ridesharing programs and services to construction employees.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations for construction employees.
- Requiring all heavy-duty vehicles engaged in drayage to or from the project site to be zero-emission beginning in 2030.
- Requiring all on-site motorized operational equipment, such as forklifts and yard trucks, to be zero-emission with the necessary charging or fueling stations provided.
- Requiring tenants to use zero-emission light- and medium-duty vehicles as part of business operations.
- Forbidding trucks from idling for more than three minutes and requiring operators to turn off engines when not in use.
- Posting both interior- and exterior-facing signs, including signs directed at all dock and delivery areas, identifying idling restrictions and contact information to report violations to CARB, the local air district, and the building manager.
- Installing solar photovoltaic systems on the project site of a specified electrical generation capacity that is equal to or greater than the building's projected energy needs, including all electrical chargers.

H-20

- Designing all project building roofs to accommodate the maximum future coverage of solar panels and installing the maximum solar power generation capacity feasible.
- Constructing zero-emission truck charging/fueling stations proportional to the number of dock doors at the project.
- Running conduit to designated locations for future electric truck charging stations.
- Unless the owner of the facility records a covenant on the title of the underlying property ensuring that the property cannot be used to provide refrigerated warehouse space, constructing electric plugs for electric transport refrigeration units at every dock door and requiring truck operators with transport refrigeration units to use the electric plugs when at loading docks.
- Oversizing electrical rooms by 25 percent or providing a secondary electrical room to accommodate future expansion of electric vehicle charging capability.
- Constructing and maintaining electric light-duty vehicle charging stations proportional to the number of employee parking spaces (for example, requiring at least 10% of all employee parking spaces to be equipped with electric vehicle charging stations of at least Level 2 charging performance)
- Running conduit to an additional proportion of employee parking spaces for a future increase in the number of electric light-duty charging stations.
- Installing and maintaining, at the manufacturer's recommended maintenance intervals, air filtration systems at sensitive receptors within a certain radius of facility for the life of the project.

H-20

- Installing and maintaining, at the manufacturer's recommended maintenance intervals, an air monitoring station proximate to sensitive receptors and the facility for the life of the project, and making the resulting data publicly available in real time. While air monitoring does not mitigate the air quality or greenhouse gas impacts of a facility, it nonetheless benefits the affected community by providing information that can be used to improve air quality or avoid exposure to unhealthy air.
- Requiring all stand-by emergency generators to be powered by a non-diesel fuel.
- Requiring facility operators to train managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks.
- Requiring operators to establish and promote a rideshare program that discourages single-occupancy vehicle trips and provides financial incentives for alternate modes of transportation, including carpooling, public transit, and biking.
- Meeting CalGreen Tier 2 green building standards, including all provisions related to designated parking for clean air vehicles, electric vehicle charging, and bicycle parking.
- Designing to LEED green building certification standards.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations.
- Posting signs at every truck exit driveway providing directional information to the truck route.
- Improving and maintaining vegetation and tree canopy for residents in and around the project area.

- Requiring that every tenant train its staff in charge of keeping vehicle records in diesel technologies and compliance with CARB regulations, by attending CARB-approved courses. Also require facility operators to maintain records on-site demonstrating compliance and make records available for inspection by the local jurisdiction, air district, and state upon request.
- Requiring tenants to enroll in the United States Environmental Protection Agency's SmartWay program, and requiring tenants who own, operate, or hire trucking carriers with more than 100 trucks to use carriers that are SmartWay carriers.
- Providing tenants with information on incentive programs, such as the Carl Moyer Program and Voucher Incentive Program, to upgrade their fleets.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation.

Furthermore, as it is policy of the State that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045, we emphasize the applicability of incorporating solar power system into the Project design. Until the feasibility of incorporating on-site renewable energy production is considered, the Project should not be approved.

An EIR should be prepared to include all feasible mitigation measures, as well as include updated air quality and health risk to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible. H-20

Disclaimer

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Attachment A: Updated CalEEMod Output Files
Attachment B: Health Risk Calculations
Attachment C: AERSCREEN Output Files
Attachment D: Matt Hagemann CV
Attachment E: Paul Rosenfeld CV

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

Mapes & Trumble Industrial Facility Project

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	6.00	1000sqft	0.14	6,000.00	0
Refrigerated Warehouse-No Rail	195.00	1000sqft	4.48	195,000.00	0
Unrefrigerated Warehouse-No Rail	195.00	1000sqft	4.48	195,000.00	0
Other Non-Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0
Parking Lot	9.52	Acre	9.52	414,691.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**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

H-20

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the IS/MND's model.

Land Use - Consistent with the IS/MND's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phases".

Trips and VMT - Consistent with the IS/MND's model.

Grading - Consistent with the IS/MND's model.

Architectural Coating - See SWAPE's comment on "Unsubstantiated Reductions toArchitectural and Area Coating Emission Factor".

Vehicle Trips - Consistent with the IS/MND's model.

Area Coating - See SWAPE's comment on "Unsubstantiated Reductions toArchitectural and Area Coating Emission Factor".

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, Annual

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

Construction Off-road Equipment Mitigation - Consistent with the IS/MND's model.

Area Mitigation - Consistent with the IS/MND's model.

Water Mitigation - Consistent with the IS/MND's model.

Operational Off-Road Equipment - Consistent with the IS/MND's model.

Fleet Mix - Consistent with the IS/MND's model.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFleetMix	HHD	0.02	0.19
tblFleetMix	HHD	0.02	0.19
tblFleetMix	LDA	0.54	0.52
tblFleetMix	LDA	0.54	0.55
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT2	0.17	0.03
tblFleetMix	LDT2	0.17	0.04
tblFleetMix	LHD1	0.03	0.06
tblFleetMix	LHD1	0.03	0.03
tblFleetMix	LHD2	7.1910e-003	0.06
tblFleetMix	LHD2	7.1910e-003	0.03
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.14	0.03
tblFleetMix	MDV	0.14	0.04
tblFleetMix	MH	5.1890e-003	0.00
tblFleetMix	MH	5.1890e-003	0.00
tblFleetMix	MHD	0.01	0.04
tblFleetMix	MHD	0.01	0.05

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

tblFleetMix	OBUS	6.1100e-004	0.00
tblFleetMix	OBUS	6.1100e-004	0.00
tblFleetMix	SBUS	1.0970e-003	0.00
tblFleetMix	SBUS	1.0970e-003	0.00
tblFleetMix	UBUS	3.0900e-004	0.00
tblFleetMix	UBUS	3.0900e-004	0.00
tblGrading	MaterialImported	0.00	28,891.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblVehicleTrips	CNW_TL	6.90	15.30
tblVehicleTrips	CNW_TL	6.90	15.30
tblVehicleTrips	CNW_TTP	41.00	80.70
tblVehicleTrips	CNW_TTP	41.00	81.30
tblVehicleTrips	CW_TL	16.60	39.90
tblVehicleTrips	CW_TL	16.60	39.90
tblVehicleTrips	CW_TTP	59.00	19.30
tblVehicleTrips	CW_TTP	59.00	18.70
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	2.12	2.15
tblVehicleTrips	ST_TR	1.74	1.84
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	2.12	2.15
tblVehicleTrips	SU_TR	1.74	1.84
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	2.12	2.15
tblVehicleTrips	WD_TR	1.74	1.84

2.0 Emissions Summary

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, 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	0.3247	2.5923	3.1836	9.4000e-003	0.6947	0.0969	0.7916	0.2289	0.0906	0.3195	0.0000	857.5399	857.5399	0.0908	0.0497	874.6321
2024	2.0910	1.2689	1.9308	5.3800e-003	0.3035	0.0463	0.3498	0.0818	0.0435	0.1253	0.0000	489.2759	489.2759	0.0459	0.0256	498.0415
Maximum	**2.0910**	**2.5923**	**3.1836**	**9.4000e-003**	**0.6947**	**0.0969**	**0.7916**	**0.2289**	**0.0906**	**0.3195**	**0.0000**	**857.5399**	**857.5399**	**0.0908**	**0.0497**	**874.6321**

H-20

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	0.3247	2.5923	3.1836	9.4000e-003	0.6947	0.0969	0.7916	0.2289	0.0906	0.3195	0.0000	857.5395	857.5395	0.0908	0.0497	874.6318
2024	2.0910	1.2689	1.9308	5.3800e-003	0.3035	0.0463	0.3498	0.0818	0.0435	0.1253	0.0000	489.2757	489.2757	0.0459	0.0256	498.0413
Maximum	**2.0910**	**2.5923**	**3.1836**	**9.4000e-003**	**0.6947**	**0.0969**	**0.7916**	**0.2289**	**0.0906**	**0.3195**	**0.0000**	**857.5395**	**857.5395**	**0.0908**	**0.0497**	**874.6318**

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, 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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2023**	**5-31-2023**	1.1652	1.1652
2	**6-1-2023**	**8-31-2023**	0.7493	0.7493
3	**9-1-2023**	**11-30-2023**	0.7458	0.7458
4	**12-1-2023**	**2-29-2024**	0.7220	0.7220
5	**3-1-2024**	**5-31-2024**	0.7116	0.7116
6	**6-1-2024**	**8-31-2024**	2.1742	2.1742
		Highest	2.1742	2.1742

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, 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	1.6510	5.0000e-005	5.1800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0101	0.0101	3.0000e-005	0.0000	0.0108
Energy	0.0566	0.5147	0.4324	3.0900e-003		0.0391	0.0391		0.0391	0.0391	0.0000	2,053.8259	2,053.8259	0.1368	0.0256	2,064.8603
Mobile	0.2258	3.8395	3.9567	0.0292	2.0817	0.0441	2.1258	0.5647	0.0420	0.6066	0.0000	2,764.1446	2,764.1446	0.0391	0.2836	2,849.6280
Offroad	0.1917	1.8037	2.3866	3.1900e-003		0.0999	0.0999		0.0919	0.0919	0.0000	280.2456	280.2456	0.0906	0.0000	282.5115
Waste						0.0000	0.0000		0.0000	0.0000	75.5492	0.0000	75.5492	4.4648	0.0000	187.1699
Water						0.0000	0.0000		0.0000	0.0000	28.9507	212.0128	240.9635	2.9914	0.0724	337.3178
Total	**2.1250**	**6.1579**	**6.7809**	**0.0355**	**2.0817**	**0.1831**	**2.2648**	**0.5647**	**0.1730**	**0.7376**	**104.4998**	**5,310.2390**	**5,414.7388**	**7.7228**	**0.3815**	**5,721.4982**

H-20

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	1.6510	5.0000e-005	5.1800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0101	0.0101	3.0000e-005	0.0000	0.0108
Energy	0.0566	0.5147	0.4324	3.0900e-003		0.0391	0.0391		0.0391	0.0391	0.0000	2,053.8259	2,053.8259	0.1368	0.0256	2,064.8603
Mobile	0.2258	3.8395	3.9567	0.0292	2.0817	0.0441	2.1258	0.5647	0.0420	0.6066	0.0000	2,764.1446	2,764.1446	0.0391	0.2836	2,849.6280
Offroad	0.1917	1.8037	2.3866	3.1900e-003		0.0999	0.0999		0.0919	0.0919	0.0000	280.2456	280.2456	0.0906	0.0000	282.5115
Waste						0.0000	0.0000		0.0000	0.0000	75.5492	0.0000	75.5492	4.4648	0.0000	187.1699
Water						0.0000	0.0000		0.0000	0.0000	28.9507	211.9342	240.8849	2.9914	0.0724	337.2389
Total	**2.1250**	**6.1579**	**6.7809**	**0.0355**	**2.0817**	**0.1831**	**2.2648**	**0.5647**	**0.1730**	**0.7376**	**104.4998**	**5,310.1604**	**5,414.6602**	**7.7228**	**0.3815**	**5,721.4193**

H-20

	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	3/1/2023	3/14/2023	5	10	
2	Grading	Grading	3/15/2023	4/25/2023	5	30	

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

3	Building Construction	Building Construction	4/26/2023	6/18/2024	5	300	
4	Paving	Paving	6/19/2024	7/16/2024	5	20	
5	Architectural Coating	Architectural Coating	7/17/2024	8/13/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 10.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 594,000; Non-Residential Outdoor: 198,000; Striped Parking Area: 27,495 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	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	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, Annual

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

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	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,611.00	14.70	6.90	15.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	358.00	140.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	72.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

H-20

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					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

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	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	2.9000e-004	2.2000e-004	2.8200e-003	1.0000e-005	9.9000e-004	0.0000	9.9000e-004	2.6000e-004	0.0000	2.7000e-004	0.0000	0.7523	0.7523	2.0000e-005	2.0000e-005	0.7587
Total	**2.9000e-004**	**2.2000e-004**	**2.8200e-003**	**1.0000e-005**	**9.9000e-004**	**0.0000**	**9.9000e-004**	**2.6000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**0.7523**	**0.7523**	**2.0000e-005**	**2.0000e-005**	**0.7587**

H-20

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					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, Annual

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	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	2.9000e-004	2.2000e-004	2.8200e-003	1.0000e-005	9.9000e-004	0.0000	9.9000e-004	2.6000e-004	0.0000	2.7000e-004	0.0000	0.7523	0.7523	2.0000e-005	2.0000e-005	0.7587
Total	**2.9000e-004**	**2.2000e-004**	**2.8200e-003**	**1.0000e-005**	**9.9000e-004**	**0.0000**	**9.9000e-004**	**2.6000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**0.7523**	**0.7523**	**2.0000e-005**	**2.0000e-005**	**0.7587**

H-20

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					0.1399	0.0000	0.1399	0.0551	0.0000	0.0551	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8028	81.8028	0.0265	0.0000	82.4642
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1399**	**0.0214**	**0.1613**	**0.0551**	**0.0197**	**0.0747**	**0.0000**	**81.8028**	**81.8028**	**0.0265**	**0.0000**	**82.4642**

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	3.4300e-003	0.1520	0.0459	7.6000e-004	0.0234	1.6400e-003	0.0250	6.4200e-003	1.5700e-003	7.9800e-003	0.0000	73.4861	73.4861	1.0400e-003	0.0116	76.9629
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	9.7000e-004	7.2000e-004	9.3900e-003	3.0000e-005	3.3000e-003	2.0000e-005	3.3100e-003	8.8000e-004	1.0000e-005	8.9000e-004	0.0000	2.5076	2.5076	6.0000e-005	7.0000e-005	2.5290
Total	**4.4000e-003**	**0.1528**	**0.0553**	**7.9000e-004**	**0.0267**	**1.6600e-003**	**0.0283**	**7.3000e-003**	**1.5800e-003**	**8.8700e-003**	**0.0000**	**75.9937**	**75.9937**	**1.1000e-003**	**0.0117**	**79.4918**

H-20

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					0.1399	0.0000	0.1399	0.0551	0.0000	0.0551	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8027	81.8027	0.0265	0.0000	82.4641
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1399**	**0.0214**	**0.1613**	**0.0551**	**0.0197**	**0.0747**	**0.0000**	**81.8027**	**81.8027**	**0.0265**	**0.0000**	**82.4641**

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, 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	3.4300e-003	0.1520	0.0459	7.6000e-004	0.0234	1.6400e-003	0.0250	6.4200e-003	1.5700e-003	7.9800e-003	0.0000	73.4861	73.4861	1.0400e-003	0.0116	76.9629
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	9.7000e-004	7.2000e-004	9.3900e-003	3.0000e-005	3.3000e-003	2.0000e-005	3.3100e-003	8.8000e-004	1.0000e-005	8.9000e-004	0.0000	2.5076	2.5076	6.0000e-005	7.0000e-005	2.5290
Total	**4.4000e-003**	**0.1528**	**0.0553**	**7.9000e-004**	**0.0267**	**1.6600e-003**	**0.0283**	**7.3000e-003**	**1.5800e-003**	**8.8700e-003**	**0.0000**	**75.9937**	**75.9937**	**1.1000e-003**	**0.0117**	**79.4918**

H-20

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	0.1400	1.2803	1.4457	2.4000e-003		0.0623	0.0623		0.0586	0.0586	0.0000	206.3062	206.3062	0.0491	0.0000	207.5332
Total	**0.1400**	**1.2803**	**1.4457**	**2.4000e-003**		**0.0623**	**0.0623**		**0.0586**	**0.0586**	**0.0000**	**206.3062**	**206.3062**	**0.0491**	**0.0000**	**207.5332**

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	0.0135	0.4272	0.1702	2.1800e-003	0.0787	3.5500e-003	0.0823	0.0227	3.4000e-003	0.0261	0.0000	209.6401	209.6401	2.1200e-003	0.0310	218.9307
Worker	0.1034	0.0766	0.9976	2.9000e-003	0.3502	1.6700e-003	0.3519	0.0930	1.5300e-003	0.0945	0.0000	266.3195	266.3195	6.6500e-003	7.0700e-003	268.5930
Total	**0.1169**	**0.5038**	**1.1678**	**5.0800e-003**	**0.4289**	**5.2200e-003**	**0.4341**	**0.1157**	**4.9300e-003**	**0.1206**	**0.0000**	**475.9596**	**475.9596**	**8.7700e-003**	**0.0381**	**487.5236**

H-20

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	0.1400	1.2803	1.4457	2.4000e-003		0.0623	0.0623		0.0586	0.0586	0.0000	206.3060	206.3060	0.0491	0.0000	207.5329
Total	**0.1400**	**1.2803**	**1.4457**	**2.4000e-003**		**0.0623**	**0.0623**		**0.0586**	**0.0586**	**0.0000**	**206.3060**	**206.3060**	**0.0491**	**0.0000**	**207.5329**

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	0.0135	0.4272	0.1702	2.1800e-003	0.0787	3.5500e-003	0.0823	0.0227	3.4000e-003	0.0261	0.0000	209.6401	209.6401	2.1200e-003	0.0310	218.9307
Worker	0.1034	0.0766	0.9976	2.9000e-003	0.3502	1.6700e-003	0.3519	0.0930	1.5300e-003	0.0945	0.0000	266.3195	266.3195	6.6500e-003	7.0700e-003	268.5930
Total	**0.1169**	**0.5038**	**1.1678**	**5.0800e-003**	**0.4289**	**5.2200e-003**	**0.4341**	**0.1157**	**4.9300e-003**	**0.1206**	**0.0000**	**475.9596**	**475.9596**	**8.7700e-003**	**0.0381**	**487.5236**

H-20

3.4 Building Construction - 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	0.0898	0.8201	0.9862	1.6400e-003		0.0374	0.0374		0.0352	0.0352	0.0000	141.4280	141.4280	0.0334	0.0000	142.2641
Total	**0.0898**	**0.8201**	**0.9862**	**1.6400e-003**		**0.0374**	**0.0374**		**0.0352**	**0.0352**	**0.0000**	**141.4280**	**141.4280**	**0.0334**	**0.0000**	**142.2641**

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

3.4 Building Construction - 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	9.1100e-003	0.2928	0.1153	1.4700e-003	0.0540	2.4200e-003	0.0564	0.0156	2.3100e-003	0.0179	0.0000	141.4725	141.4725	1.5000e-003	0.0209	147.7343
Worker	0.0661	0.0467	0.6394	1.9300e-003	0.2400	1.0900e-003	0.2411	0.0637	1.0000e-003	0.0647	0.0000	176.7540	176.7540	4.1300e-003	4.5000e-003	178.1987
Total	**0.0752**	**0.3395**	**0.7548**	**3.4000e-003**	**0.2940**	**3.5100e-003**	**0.2975**	**0.0793**	**3.3100e-003**	**0.0826**	**0.0000**	**318.2265**	**318.2265**	**5.6300e-003**	**0.0254**	**325.9329**

H-20

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	0.0898	0.8201	0.9862	1.6400e-003		0.0374	0.0374		0.0352	0.0352	0.0000	141.4278	141.4278	0.0334	0.0000	142.2639
Total	**0.0898**	**0.8201**	**0.9862**	**1.6400e-003**		**0.0374**	**0.0374**		**0.0352**	**0.0352**	**0.0000**	**141.4278**	**141.4278**	**0.0334**	**0.0000**	**142.2639**

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

3.4 Building Construction - 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	9.1100e-003	0.2928	0.1153	1.4700e-003	0.0540	2.4200e-003	0.0564	0.0156	2.3100e-003	0.0179	0.0000	141.4725	141.4725	1.5000e-003	0.0209	147.7343
Worker	0.0661	0.0467	0.6394	1.9300e-003	0.2400	1.0900e-003	0.2411	0.0637	1.0000e-003	0.0647	0.0000	176.7540	176.7540	4.1300e-003	4.5000e-003	178.1987
Total	**0.0752**	**0.3395**	**0.7548**	**3.4000e-003**	**0.2940**	**3.5100e-003**	**0.2975**	**0.0793**	**3.3100e-003**	**0.0826**	**0.0000**	**318.2265**	**318.2265**	**5.6300e-003**	**0.0254**	**325.9329**

H-20

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	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	0.0125					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0224**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1885**

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	4.5000e-004	3.2000e-004	4.3900e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.2141	1.2141	3.0000e-005	3.0000e-005	1.2240
Total	**4.5000e-004**	**3.2000e-004**	**4.3900e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.4000e-004**	**0.0000**	**1.2141**	**1.2141**	**3.0000e-005**	**3.0000e-005**	**1.2240**

H-20

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	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	0.0125					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0224**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1884**

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	4.5000e-004	3.2000e-004	4.3900e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.2141	1.2141	3.0000e-005	3.0000e-005	1.2240
Total	**4.5000e-004**	**3.2000e-004**	**4.3900e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.4000e-004**	**0.0000**	**1.2141**	**1.2141**	**3.0000e-005**	**3.0000e-005**	**1.2240**

H-20

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	1.8992					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**1.9010**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

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	2.1800e-003	1.5400e-003	0.0211	6.0000e-005	7.9100e-003	4.0000e-005	7.9500e-003	2.1000e-003	3.0000e-005	2.1300e-003	0.0000	5.8276	5.8276	1.4000e-004	1.5000e-004	5.8752
Total	**2.1800e-003**	**1.5400e-003**	**0.0211**	**6.0000e-005**	**7.9100e-003**	**4.0000e-005**	**7.9500e-003**	**2.1000e-003**	**3.0000e-005**	**2.1300e-003**	**0.0000**	**5.8276**	**5.8276**	**1.4000e-004**	**1.5000e-004**	**5.8752**

H-20

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	1.8992					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**1.9010**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

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	2.1800e-003	1.5400e-003	0.0211	6.0000e-005	7.9100e-003	4.0000e-005	7.9500e-003	2.1000e-003	3.0000e-005	2.1300e-003	0.0000	5.8276	5.8276	1.4000e-004	1.5000e-004	5.8752
Total	**2.1800e-003**	**1.5400e-003**	**0.0211**	**6.0000e-005**	**7.9100e-003**	**4.0000e-005**	**7.9500e-003**	**2.1000e-003**	**3.0000e-005**	**2.1300e-003**	**0.0000**	**5.8276**	**5.8276**	**1.4000e-004**	**1.5000e-004**	**5.8752**

H-20

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	tons/yr										MT/yr					
Mitigated	0.2258	3.8395	3.9567	0.0292	2.0817	0.0441	2.1258	0.5647	0.0420	0.6066	0.0000	2,764.1446	2,764.1446	0.0391	0.2836	2,849.6280
Unmitigated	0.2258	3.8395	3.9567	0.0292	2.0817	0.0441	2.1258	0.5647	0.0420	0.6066	0.0000	2,764.1446	2,764.1446	0.0391	0.2836	2,849.6280

4.2 Trip Summary Information

H-20

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	419.25	419.25	419.25	2,853,381	2,853,381
Unrefrigerated Warehouse-No Rail	358.80	358.80	358.80	2,423,987	2,423,987
Total	778.05	778.05	778.05	5,277,368	5,277,368

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
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	39.90	8.40	15.30	19.30	0.00	80.70	92	5	3
Unrefrigerated Warehouse-No	39.90	8.40	15.30	18.70	0.00	81.30	92	5	3

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
General Office Building	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Refrigerated Warehouse-No Rail	0.518000	0.065000	0.032000	0.032000	0.061000	0.061000	0.038000	0.193000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.552000	0.069000	0.035000	0.035000	0.034000	0.034000	0.054000	0.187000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

H-20

	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	1,493.5123	1,493.5123	0.1261	0.0153	1,501.2171
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,493.5123	1,493.5123	0.1261	0.0153	1,501.2171
NaturalGas Mitigated	0.0566	0.5147	0.4324	3.0900e-003		0.0391	0.0391		0.0391	0.0391	0.0000	560.3136	560.3136	0.0107	0.0103	563.6433
NaturalGas Unmitigated	0.0566	0.5147	0.4324	3.0900e-003		0.0391	0.0391		0.0391	0.0391	0.0000	560.3136	560.3136	0.0107	0.0103	563.6433

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, 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					
General Office Building	20580	1.1000e-004	1.0100e-003	8.5000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.0982	1.0982	2.0000e-005	2.0000e-005	1.1048
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
Refrigerated Warehouse-No Rail	1.00874e+007	0.0544	0.4945	0.4154	2.9700e-003		0.0376	0.0376		0.0376	0.0376	0.0000	538.2994	538.2994	0.0103	9.8700e-003	541.4983
Unrefrigerated Warehouse-No Rail	391950	2.1100e-003	0.0192	0.0161	1.2000e-004		1.4600e-003	1.4600e-003		1.4600e-003	1.4600e-003	0.0000	20.9159	20.9159	4.0000e-004	3.8000e-004	21.0402
Total		**0.0566**	**0.5147**	**0.4324**	**3.1000e-003**		**0.0391**	**0.0391**		**0.0391**	**0.0391**	**0.0000**	**560.3136**	**560.3136**	**0.0107**	**0.0103**	**563.6433**

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, 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					
General Office Building	20580	1.1000e-004	1.0100e-003	8.5000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.0982	1.0982	2.0000e-005	2.0000e-005	1.1048
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
Refrigerated Warehouse-No Rail	1.00874e+007	0.0544	0.4945	0.4154	2.9700e-003		0.0376	0.0376		0.0376	0.0376	0.0000	538.2994	538.2994	0.0103	9.8700e-003	541.4983
Unrefrigerated Warehouse-No Rail	391950	2.1100e-003	0.0192	0.0161	1.2000e-004		1.4600e-003	1.4600e-003		1.4600e-003	1.4600e-003	0.0000	20.9159	20.9159	4.0000e-004	3.8000e-004	21.0402
Total		**0.0566**	**0.5147**	**0.4324**	**3.1000e-003**		**0.0391**	**0.0391**		**0.0391**	**0.0391**	**0.0000**	**560.3136**	**560.3136**	**0.0107**	**0.0103**	**563.6433**

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			
General Office Building	55140	9.7788	8.3000e-004	1.0000e-004	9.8293
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	145142	25.7403	2.1700e-003	2.6000e-004	25.8731
Refrigerated Warehouse-No Rail	7.7688e+006	1,377.7621	0.1163	0.0141	1,384.8697
Unrefrigerated Warehouse-No Rail	452400	80.2311	6.7700e-003	8.2000e-004	80.6450
Total		**1,493.5123**	**0.1261**	**0.0153**	**1,501.2171**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	55140	9.7788	8.3000e-004	1.0000e-004	9.8293
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	145142	25.7403	2.1700e-003	2.6000e-004	25.8731
Refrigerated Warehouse-No Rail	7.7688e+006	1,377.7621	0.1163	0.0141	1,384.8697
Unrefrigerated Warehouse-No Rail	452400	80.2311	6.7700e-003	8.2000e-004	80.6450
Total		**1,493.5123**	**0.1261**	**0.0153**	**1,501.2171**

H-20

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

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	1.6510	5.0000e-005	5.1800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0101	0.0101	3.0000e-005	0.0000	0.0108
Unmitigated	1.6510	5.0000e-005	5.1800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0101	0.0101	3.0000e-005	0.0000	0.0108

6.2 Area by SubCategory

H-20

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	0.1899					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4606					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.8000e-004	5.0000e-005	5.1800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0101	0.0101	3.0000e-005	0.0000	0.0108
Total	**1.6510**	**5.0000e-005**	**5.1800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0101**	**0.0101**	**3.0000e-005**	**0.0000**	**0.0108**

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	0.1899					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4606					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.8000e-004	5.0000e-005	5.1800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0101	0.0101	3.0000e-005	0.0000	0.0108
Total	**1.6510**	**5.0000e-005**	**5.1800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0101**	**0.0101**	**3.0000e-005**	**0.0000**	**0.0108**

H-20

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	240.8849	2.9914	0.0724	337.2389
Unmitigated	240.9635	2.9914	0.0724	337.3178

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	1.0664 / 0.653602	4.0887	0.0351	8.6000e-004	5.2212
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
Refrigerated Warehouse-No Rail	45.0938 / 0	118.4374	1.4782	0.0358	166.0483
Unrefrigerated Warehouse-No Rail	45.0938 / 0	118.4374	1.4782	0.0358	166.0483
Total		**240.9635**	**2.9914**	**0.0724**	**337.3178**

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	1.0664 / 0.613732	4.0101	0.0351	8.6000e-004	5.1423
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
Refrigerated Warehouse-No Rail	45.0938 / 0	118.4374	1.4782	0.0358	166.0483
Unrefrigerated Warehouse-No Rail	45.0938 / 0	118.4374	1.4782	0.0358	166.0483
Total		**240.8849**	**2.9914**	**0.0724**	**337.2389**

H-20

8.0 Waste Detail

8.1 Mitigation Measures Waste

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	75.5492	4.4648	0.0000	187.1699
Unmitigated	75.5492	4.4648	0.0000	187.1699

8.2 Waste by Land Use

H-20

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	5.58	1.1327	0.0669	0.0000	2.8062
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	183.3	37.2082	2.1989	0.0000	92.1819
Unrefrigerated Warehouse-No Rail	183.3	37.2082	2.1989	0.0000	92.1819
Total		**75.5492**	**4.4648**	**0.0000**	**187.1699**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	5.58	1.1327	0.0669	0.0000	2.8062
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	183.3	37.2082	2.1989	0.0000	92.1819
Unrefrigerated Warehouse-No Rail	183.3	37.2082	2.1989	0.0000	92.1819
Total		**75.5492**	**4.4648**	**0.0000**	**187.1699**

H-20

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	6	8.00	260	89	0.20	Diesel
Other General Industrial Equipment	6	8.00	260	88	0.34	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	0.0735	0.6892	0.8887	1.1900e-003		0.0398	0.0398		0.0366	0.0366	0.0000	104.7471	104.7471	0.0339	0.0000	105.5940
Other General Industrial Equipment	0.1182	1.1145	1.4980	2.0000e-003		0.0601	0.0601		0.0552	0.0552	0.0000	175.4985	175.4985	0.0568	0.0000	176.9175
Total	**0.1917**	**1.8037**	**2.3866**	**3.1900e-003**		**0.0999**	**0.0999**		**0.0919**	**0.0919**	**0.0000**	**280.2456**	**280.2456**	**0.0906**	**0.0000**	**282.5115**

H-20

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, Summer

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

Mapes & Trumble Industrial Facility Project

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	6.00	1000sqft	0.14	6,000.00	0
Refrigerated Warehouse-No Rail	195.00	1000sqft	4.48	195,000.00	0
Unrefrigerated Warehouse-No Rail	195.00	1000sqft	4.48	195,000.00	0
Other Non-Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0
Parking Lot	9.52	Acre	9.52	414,691.20	0

H-20

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**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 - Consistent with the IS/MND's model.

Land Use - Consistent with the IS/MND's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phases".

Trips and VMT - Consistent with the IS/MND's model.

Grading - Consistent with the IS/MND's model.

Architectural Coating - See SWAPE's comment on "Unsubstantiated Reductions toArchitectural and Area Coating Emission Factor".

Vehicle Trips - Consistent with the IS/MND's model.

Area Coating - See SWAPE's comment on "Unsubstantiated Reductions toArchitectural and Area Coating Emission Factor".

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, Summer

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

Construction Off-road Equipment Mitigation - Consistent with the IS/MND's model.

Area Mitigation - Consistent with the IS/MND's model.

Water Mitigation - Consistent with the IS/MND's model.

Operational Off-Road Equipment - Consistent with the IS/MND's model.

Fleet Mix - Consistent with the IS/MND's model.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFleetMix	HHD	0.02	0.19
tblFleetMix	HHD	0.02	0.19
tblFleetMix	LDA	0.54	0.52
tblFleetMix	LDA	0.54	0.55
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT2	0.17	0.03
tblFleetMix	LDT2	0.17	0.04
tblFleetMix	LHD1	0.03	0.06
tblFleetMix	LHD1	0.03	0.03
tblFleetMix	LHD2	7.1910e-003	0.06
tblFleetMix	LHD2	7.1910e-003	0.03
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.14	0.03
tblFleetMix	MDV	0.14	0.04
tblFleetMix	MH	5.1890e-003	0.00
tblFleetMix	MH	5.1890e-003	0.00
tblFleetMix	MHD	0.01	0.04
tblFleetMix	MHD	0.01	0.05

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

tblFleetMix	OBUS	6.1100e-004	0.00
tblFleetMix	OBUS	6.1100e-004	0.00
tblFleetMix	SBUS	1.0970e-003	0.00
tblFleetMix	SBUS	1.0970e-003	0.00
tblFleetMix	UBUS	3.0900e-004	0.00
tblFleetMix	UBUS	3.0900e-004	0.00
tblGrading	MaterialImported	0.00	28,891.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblVehicleTrips	CNW_TL	6.90	15.30
tblVehicleTrips	CNW_TL	6.90	15.30
tblVehicleTrips	CNW_TTP	41.00	80.70
tblVehicleTrips	CNW_TTP	41.00	81.30
tblVehicleTrips	CW_TL	16.60	39.90
tblVehicleTrips	CW_TL	16.60	39.90
tblVehicleTrips	CW_TTP	59.00	19.30
tblVehicleTrips	CW_TTP	59.00	18.70
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	2.12	2.15
tblVehicleTrips	ST_TR	1.74	1.84
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	2.12	2.15
tblVehicleTrips	SU_TR	1.74	1.84
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	2.12	2.15
tblVehicleTrips	WD_TR	1.74	1.84

2.0 Emissions Summary

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, 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	3.6324	44.1774	31.8130	0.1146	19.8582	1.5347	21.1252	10.1558	1.4159	11.3214	0.0000	11,605.8911	11,605.8911	2.0260	0.8549	11,911.2981
2024	190.3437	18.7374	30.2724	0.0851	4.8983	0.6707	5.5690	1.3194	0.6312	1.9506	0.0000	8,553.8593	8,553.8593	0.7171	0.4548	8,707.0565
Maximum	**190.3437**	**44.1774**	**31.8130**	**0.1146**	**19.8582**	**1.5347**	**21.1252**	**10.1558**	**1.4159**	**11.3214**	**0.0000**	**11,605.8911**	**11,605.8911**	**2.0260**	**0.8549**	**11,911.2981**

H-20

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	3.6324	44.1774	31.8130	0.1146	19.8582	1.5347	21.1252	10.1558	1.4159	11.3214	0.0000	11,605.8911	11,605.8911	2.0260	0.8549	11,911.2981
2024	190.3437	18.7374	30.2724	0.0851	4.8983	0.6707	5.5690	1.3194	0.6312	1.9506	0.0000	8,553.8593	8,553.8593	0.7171	0.4548	8,707.0565
Maximum	**190.3437**	**44.1774**	**31.8130**	**0.1146**	**19.8582**	**1.5347**	**21.1252**	**10.1558**	**1.4159**	**11.3214**	**0.0000**	**11,605.8911**	**11,605.8911**	**2.0260**	**0.8549**	**11,911.2981**

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, 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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 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	9.0476	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0890	0.0890	2.3000e-004		0.0948
Energy	0.3102	2.8203	2.3690	0.0169		0.2143	0.2143		0.2143	0.2143		3,384.3288	3,384.3288	0.0649	0.0621	3,404.4401
Mobile	1.4024	19.9963	24.4849	0.1651	11.6219	0.2423	11.8642	3.1478	0.2307	3.3785		17,209.3593	17,209.3593	0.2378	1.7121	17,725.4995
Offroad	1.4744	13.8745	18.3585	0.0245		0.7681	0.7681		0.7066	0.7066	0.0000	2,376.2940	2,376.2940	0.7685		2,395.5075
Total	**12.2346**	**36.6914**	**45.2539**	**0.2065**	**11.6219**	**1.2249**	**12.8468**	**3.1478**	**1.1518**	**4.2996**	**0.0000**	**22,970.0710**	**22,970.0710**	**1.0714**	**1.7741**	**23,525.5419**

H-20

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	9.0476	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0890	0.0890	2.3000e-004		0.0948
Energy	0.3102	2.8203	2.3690	0.0169		0.2143	0.2143		0.2143	0.2143		3,384.3288	3,384.3288	0.0649	0.0621	3,404.4401
Mobile	1.4024	19.9963	24.4849	0.1651	11.6219	0.2423	11.8642	3.1478	0.2307	3.3785		17,209.3593	17,209.3593	0.2378	1.7121	17,725.4995
Offroad	1.4744	13.8745	18.3585	0.0245		0.7681	0.7681		0.7066	0.7066	0.0000	2,376.2940	2,376.2940	0.7685		2,395.5075
Total	**12.2346**	**36.6914**	**45.2539**	**0.2065**	**11.6219**	**1.2249**	**12.8468**	**3.1478**	**1.1518**	**4.2996**	**0.0000**	**22,970.0710**	**22,970.0710**	**1.0714**	**1.7741**	**23,525.5419**

H-20

	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	3/1/2023	3/14/2023	5	10	
2	Grading	Grading	3/15/2023	4/25/2023	5	30	
3	Building Construction	Building Construction	4/26/2023	6/18/2024	5	300	
4	Paving	Paving	6/19/2024	7/16/2024	5	20	

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

5	Architectural Coating	Architectural Coating	7/17/2024	8/13/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 10.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 594,000; Non-Residential Outdoor: 198,000; Striped Parking Area: 27,495 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	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	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

H-20

Trips and VMT

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, 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	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,611.00	14.70	6.90	15.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	358.00	140.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	72.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2023

H-20

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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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	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	0.0657	0.0406	0.6586	1.7700e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		178.8733	178.8733	4.1400e-003	4.2200e-003	180.2350
Total	**0.0657**	**0.0406**	**0.6586**	**1.7700e-003**	**0.2012**	**9.4000e-004**	**0.2021**	**0.0534**	**8.7000e-004**	**0.0542**		**178.8733**	**178.8733**	**4.1400e-003**	**4.2200e-003**	**180.2350**

H-20

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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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	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	0.0657	0.0406	0.6586	1.7700e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		178.8733	178.8733	4.1400e-003	4.2200e-003	180.2350
Total	**0.0657**	**0.0406**	**0.6586**	**1.7700e-003**	**0.2012**	**9.4000e-004**	**0.2021**	**0.0534**	**8.7000e-004**	**0.0542**		**178.8733**	**178.8733**	**4.1400e-003**	**4.2200e-003**	**180.2350**

H-20

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					9.3255	0.0000	9.3255	3.6722	0.0000	3.6722			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.3255**	**1.4245**	**10.7500**	**3.6722**	**1.3105**	**4.9828**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, 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	0.2376	9.6167	3.0301	0.0505	1.5806	0.1092	1.6898	0.4334	0.1044	0.5378		5,395.6653	5,395.6653	0.0772	0.8502	5,650.9534
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	0.0730	0.0451	0.7317	1.9700e-003	0.2236	1.0500e-003	0.2246	0.0593	9.6000e-004	0.0603		198.7481	198.7481	4.5900e-003	4.6900e-003	200.2612
Total	**0.3106**	**9.6618**	**3.7618**	**0.0525**	**1.8042**	**0.1102**	**1.9144**	**0.4927**	**0.1054**	**0.5981**		**5,594.4134**	**5,594.4134**	**0.0818**	**0.8549**	**5,851.2145**

H-20

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					9.3255	0.0000	9.3255	3.6722	0.0000	3.6722			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.3255**	**1.4245**	**10.7500**	**3.6722**	**1.3105**	**4.9828**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

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	lb/day										lb/day					
Hauling	0.2376	9.6167	3.0301	0.0505	1.5806	0.1092	1.6898	0.4334	0.1044	0.5378		5,395.6653	5,395.6653	0.0772	0.8502	5,650.9534
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	0.0730	0.0451	0.7317	1.9700e-003	0.2236	1.0500e-003	0.2246	0.0593	9.6000e-004	0.0603		198.7481	198.7481	4.5900e-003	4.6900e-003	200.2612
Total	**0.3106**	**9.6618**	**3.7618**	**0.0525**	**1.8042**	**0.1102**	**1.9144**	**0.4927**	**0.1054**	**0.5981**		**5,594.4134**	**5,594.4134**	**0.0818**	**0.8549**	**5,851.2145**

H-20

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	0.1578	4.5739	1.8833	0.0245	0.8967	0.0398	0.9365	0.2582	0.0381	0.2963		2,593.7940	2,593.7940	0.0265	0.3833	2,708.6742
Worker	1.3071	0.8077	13.0982	0.0352	4.0016	0.0187	4.0203	1.0612	0.0172	1.0785		3,557.5904	3,557.5904	0.0823	0.0840	3,584.6746
Total	**1.4649**	**5.3816**	**14.9815**	**0.0597**	**4.8983**	**0.0586**	**4.9569**	**1.3194**	**0.0553**	**1.3748**		**6,151.3844**	**6,151.3844**	**0.1087**	**0.4673**	**6,293.3488**

H-20

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	0.1578	4.5739	1.8833	0.0245	0.8967	0.0398	0.9365	0.2582	0.0381	0.2963		2,593.7940	2,593.7940	0.0265	0.3833	2,708.6742
Worker	1.3071	0.8077	13.0982	0.0352	4.0016	0.0187	4.0203	1.0612	0.0172	1.0785		3,557.5904	3,557.5904	0.0823	0.0840	3,584.6746
Total	**1.4649**	**5.3816**	**14.9815**	**0.0597**	**4.8983**	**0.0586**	**4.9569**	**1.3194**	**0.0553**	**1.3748**		**6,151.3844**	**6,151.3844**	**0.1087**	**0.4673**	**6,293.3488**

H-20

3.4 Building Construction - 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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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

3.4 Building Construction - 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	0.1553	4.5743	1.8617	0.0241	0.8967	0.0396	0.9363	0.2582	0.0379	0.2960		2,553.8181	2,553.8181	0.0274	0.3768	2,666.7918
Worker	1.2182	0.7194	12.2439	0.0341	4.0016	0.0179	4.0195	1.0612	0.0164	1.0777		3,444.3423	3,444.3423	0.0745	0.0780	3,469.4571
Total	**1.3735**	**5.2937**	**14.1056**	**0.0582**	**4.8983**	**0.0574**	**4.9557**	**1.3194**	**0.0543**	**1.3737**		**5,998.1604**	**5,998.1604**	**0.1019**	**0.4548**	**6,136.2489**

H-20

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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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

3.4 Building Construction - 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	0.1553	4.5743	1.8617	0.0241	0.8967	0.0396	0.9363	0.2582	0.0379	0.2960		2,553.8181	2,553.8181	0.0274	0.3768	2,666.7918
Worker	1.2182	0.7194	12.2439	0.0341	4.0016	0.0179	4.0195	1.0612	0.0164	1.0777		3,444.3423	3,444.3423	0.0745	0.0780	3,469.4571
Total	**1.3735**	**5.2937**	**14.1056**	**0.0582**	**4.8983**	**0.0574**	**4.9557**	**1.3194**	**0.0543**	**1.3737**		**5,998.1604**	**5,998.1604**	**0.1019**	**0.4548**	**6,136.2489**

H-20

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	1.2471					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2353**	**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**

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	0.0510	0.0301	0.5130	1.4300e-003	0.1677	7.5000e-004	0.1684	0.0445	6.9000e-004	0.0452		144.3160	144.3160	3.1200e-003	3.2700e-003	145.3683
Total	**0.0510**	**0.0301**	**0.5130**	**1.4300e-003**	**0.1677**	**7.5000e-004**	**0.1684**	**0.0445**	**6.9000e-004**	**0.0452**		**144.3160**	**144.3160**	**3.1200e-003**	**3.2700e-003**	**145.3683**

H-20

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	1.2471					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2353**	**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**

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	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	0.0510	0.0301	0.5130	1.4300e-003	0.1677	7.5000e-004	0.1684	0.0445	6.9000e-004	0.0452		144.3160	144.3160	3.1200e-003	3.2700e-003	145.3683
Total	**0.0510**	**0.0301**	**0.5130**	**1.4300e-003**	**0.1677**	**7.5000e-004**	**0.1684**	**0.0445**	**6.9000e-004**	**0.0452**		**144.3160**	**144.3160**	**3.1200e-003**	**3.2700e-003**	**145.3683**

H-20

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	189.9180					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**190.0987**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	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	0.2450	0.1447	2.4625	6.8500e-003	0.8048	3.5900e-003	0.8084	0.2134	3.3000e-003	0.2167		692.7169	692.7169	0.0150	0.0157	697.7679
Total	**0.2450**	**0.1447**	**2.4625**	**6.8500e-003**	**0.8048**	**3.5900e-003**	**0.8084**	**0.2134**	**3.3000e-003**	**0.2167**		**692.7169**	**692.7169**	**0.0150**	**0.0157**	**697.7679**

H-20

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	189.9180					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**190.0987**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	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	0.2450	0.1447	2.4625	6.8500e-003	0.8048	3.5900e-003	0.8084	0.2134	3.3000e-003	0.2167		692.7169	692.7169	0.0150	0.0157	697.7679
Total	**0.2450**	**0.1447**	**2.4625**	**6.8500e-003**	**0.8048**	**3.5900e-003**	**0.8084**	**0.2134**	**3.3000e-003**	**0.2167**		**692.7169**	**692.7169**	**0.0150**	**0.0157**	**697.7679**

H-20

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, 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	1.4024	19.9963	24.4849	0.1651	11.6219	0.2423	11.8642	3.1478	0.2307	3.3785		17,209.3593	17,209.3593	0.2378	1.7121	17,725.4995
Unmitigated	1.4024	19.9963	24.4849	0.1651	11.6219	0.2423	11.8642	3.1478	0.2307	3.3785		17,209.3593	17,209.3593	0.2378	1.7121	17,725.4995

4.2 Trip Summary Information

H-20

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	419.25	419.25	419.25	2,853,381	2,853,381
Unrefrigerated Warehouse-No Rail	358.80	358.80	358.80	2,423,987	2,423,987
Total	778.05	778.05	778.05	5,277,368	5,277,368

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
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	39.90	8.40	15.30	19.30	0.00	80.70	92	5	3
Unrefrigerated Warehouse-No	39.90	8.40	15.30	18.70	0.00	81.30	92	5	3

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
General Office Building	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Refrigerated Warehouse-No Rail	0.518000	0.065000	0.032000	0.032000	0.061000	0.061000	0.038000	0.193000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.552000	0.069000	0.035000	0.035000	0.034000	0.034000	0.054000	0.187000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

H-20

	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	0.3102	2.8203	2.3690	0.0169		0.2143	0.2143		0.2143	0.2143		3,384.3288	3,384.3288	0.0649	0.0621	3,404.4401
NaturalGas Unmitigated	0.3102	2.8203	2.3690	0.0169		0.2143	0.2143		0.2143	0.2143		3,384.3288	3,384.3288	0.0649	0.0621	3,404.4401

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					
General Office Building	56.3836	6.1000e-004	5.5300e-003	4.6400e-003	3.0000e-005		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004		6.6334	6.6334	1.3000e-004	1.2000e-004	6.6728
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
Refrigerated Warehouse-No Rail	27636.6	0.2980	2.7095	2.2760	0.0163		0.2059	0.2059		0.2059	0.2059		3,251.3618	3,251.3618	0.0623	0.0596	3,270.6830
Unrefrigerated Warehouse-No Rail	1073.84	0.0116	0.1053	0.0884	6.3000e-004		8.0000e-003	8.0000e-003		8.0000e-003	8.0000e-003		126.3336	126.3336	2.4200e-003	2.3200e-003	127.0843
Total		**0.3102**	**2.8203**	**2.3690**	**0.0169**		**0.2143**	**0.2143**		**0.2143**	**0.2143**		**3,384.3288**	**3,384.3288**	**0.0649**	**0.0621**	**3,404.4401**

H-20

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					
General Office Building	0.0563836	6.1000e-004	5.5300e-003	4.6400e-003	3.0000e-005		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004		6.6334	6.6334	1.3000e-004	1.2000e-004	6.6728
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
Refrigerated Warehouse-No Rail	27.6366	0.2980	2.7095	2.2760	0.0163		0.2059	0.2059		0.2059	0.2059		3,251.3618	3,251.3618	0.0623	0.0596	3,270.6830
Unrefrigerated Warehouse-No Rail	1.07384	0.0116	0.1053	0.0884	6.3000e-004		8.0000e-003	8.0000e-003		8.0000e-003	8.0000e-003		126.3336	126.3336	2.4200e-003	2.3200e-003	127.0843
Total		**0.3102**	**2.8203**	**2.3690**	**0.0169**		**0.2143**	**0.2143**		**0.2143**	**0.2143**		**3,384.3288**	**3,384.3288**	**0.0649**	**0.0621**	**3,404.4401**

H-20

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, 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	9.0476	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0890	0.0890	2.3000e-004		0.0948
Unmitigated	9.0476	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0890	0.0890	2.3000e-004		0.0948

6.2 Area by SubCategory

H-20

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	1.0407					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.0031					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8300e-003	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0890	0.0890	2.3000e-004		0.0948
Total	**9.0476**	**3.8000e-004**	**0.0414**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0890**	**0.0890**	**2.3000e-004**		**0.0948**

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	1.0407					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.0031					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8300e-003	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0890	0.0890	2.3000e-004		0.0948
Total	**9.0476**	**3.8000e-004**	**0.0414**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0890**	**0.0890**	**2.3000e-004**		**0.0948**

H-20

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

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	6	8.00	260	89	0.20	Diesel
Other General Industrial Equipment	6	8.00	260	88	0.34	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	0.5652	5.3011	6.8358	9.1700e-003		0.3061	0.3061		0.2817	0.2817	0.0000	888.1850	888.1850	0.2873		895.3664
Other General Industrial Equipment	0.9092	8.5734	11.5227	0.0154		0.4619	0.4619		0.4250	0.4250	0.0000	1,488.1090	1,488.1090	0.4813		1,500.1411
Total	**1.4744**	**13.8745**	**18.3585**	**0.0245**		**0.7681**	**0.7681**		**0.7066**	**0.7066**	**0.0000**	**2,376.2940**	**2,376.2940**	**0.7685**		**2,395.5075**

H-20

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, Winter

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

Mapes & Trumble Industrial Facility Project

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	6.00	1000sqft	0.14	6,000.00	0
Refrigerated Warehouse-No Rail	195.00	1000sqft	4.48	195,000.00	0
Unrefrigerated Warehouse-No Rail	195.00	1000sqft	4.48	195,000.00	0
Other Non-Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0
Parking Lot	9.52	Acre	9.52	414,691.20	0

H-20

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**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 - Consistent with the IS/MND's model.

Land Use - Consistent with the IS/MND's model.

Construction Phase - See SWAPE's comment on "Unsubstantiated Changes to Individual Construction Phases".

Trips and VMT - Consistent with the IS/MND's model.

Grading - Consistent with the IS/MND's model.

Architectural Coating - See SWAPE's comment on "Unsubstantiated Reductions toArchitectural and Area Coating Emission Factor".

Vehicle Trips - Consistent with the IS/MND's model.

Area Coating - See SWAPE's comment on "Unsubstantiated Reductions toArchitectural and Area Coating Emission Factor".

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, Winter

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

Construction Off-road Equipment Mitigation - Consistent with the IS/MND's model.

Area Mitigation - Consistent with the IS/MND's model.

Water Mitigation - Consistent with the IS/MND's model.

Operational Off-Road Equipment - Consistent with the IS/MND's model.

Fleet Mix - Consistent with the IS/MND's model.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFleetMix	HHD	0.02	0.19
tblFleetMix	HHD	0.02	0.19
tblFleetMix	LDA	0.54	0.52
tblFleetMix	LDA	0.54	0.55
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT2	0.17	0.03
tblFleetMix	LDT2	0.17	0.04
tblFleetMix	LHD1	0.03	0.06
tblFleetMix	LHD1	0.03	0.03
tblFleetMix	LHD2	7.1910e-003	0.06
tblFleetMix	LHD2	7.1910e-003	0.03
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.14	0.03
tblFleetMix	MDV	0.14	0.04
tblFleetMix	MH	5.1890e-003	0.00
tblFleetMix	MH	5.1890e-003	0.00
tblFleetMix	MHD	0.01	0.04
tblFleetMix	MHD	0.01	0.05

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

tblFleetMix	OBUS	6.1100e-004	0.00
tblFleetMix	OBUS	6.1100e-004	0.00
tblFleetMix	SBUS	1.0970e-003	0.00
tblFleetMix	SBUS	1.0970e-003	0.00
tblFleetMix	UBUS	3.0900e-004	0.00
tblFleetMix	UBUS	3.0900e-004	0.00
tblGrading	MaterialImported	0.00	28,891.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblVehicleTrips	CNW_TL	6.90	15.30
tblVehicleTrips	CNW_TL	6.90	15.30
tblVehicleTrips	CNW_TTP	41.00	80.70
tblVehicleTrips	CNW_TTP	41.00	81.30
tblVehicleTrips	CW_TL	16.60	39.90
tblVehicleTrips	CW_TL	16.60	39.90
tblVehicleTrips	CW_TTP	59.00	19.30
tblVehicleTrips	CW_TTP	59.00	18.70
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	2.12	2.15
tblVehicleTrips	ST_TR	1.74	1.84
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	2.12	2.15
tblVehicleTrips	SU_TR	1.74	1.84
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	2.12	2.15
tblVehicleTrips	WD_TR	1.74	1.84

2.0 Emissions Summary

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, Winter

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	3.6065	44.7690	31.7452	0.1145	19.8582	1.5349	21.1252	10.1558	1.4161	11.3214	0.0000	11,598.2739	11,598.2739	2.0250	0.8567	11,904.2076
2024	190.3291	19.0413	28.0387	0.0820	4.8983	0.6709	5.5692	1.3194	0.6313	1.9507	0.0000	8,237.3965	8,237.3965	0.7171	0.4579	8,391.4884
Maximum	**190.3291**	**44.7690**	**31.7452**	**0.1145**	**19.8582**	**1.5349**	**21.1252**	**10.1558**	**1.4161**	**11.3214**	**0.0000**	**11,598.2739**	**11,598.2739**	**2.0250**	**0.8567**	**11,904.2076**

H-20

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	3.6065	44.7690	31.7452	0.1145	19.8582	1.5349	21.1252	10.1558	1.4161	11.3214	0.0000	11,598.2739	11,598.2739	2.0250	0.8567	11,904.2076
2024	190.3291	19.0413	28.0387	0.0820	4.8983	0.6709	5.5692	1.3194	0.6313	1.9507	0.0000	8,237.3965	8,237.3965	0.7171	0.4579	8,391.4884
Maximum	**190.3291**	**44.7690**	**31.7452**	**0.1145**	**19.8582**	**1.5349**	**21.1252**	**10.1558**	**1.4161**	**11.3214**	**0.0000**	**11,598.2739**	**11,598.2739**	**2.0250**	**0.8567**	**11,904.2076**

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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 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	9.0476	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0890	0.0890	2.3000e-004		0.0948
Energy	0.3102	2.8203	2.3690	0.0169		0.2143	0.2143		0.2143	0.2143		3,384.3288	3,384.3288	0.0649	0.0621	3,404.4401
Mobile	1.2126	21.1157	21.0096	0.1595	11.6219	0.2426	11.8645	3.1478	0.2310	3.3787		16,641.9887	16,641.9887	0.2355	1.7182	17,159.9028
Offroad	1.4744	13.8745	18.3585	0.0245		0.7681	0.7681		0.7066	0.7066	0.0000	2,376.2940	2,376.2940	0.7685		2,395.5075
Total	**12.0448**	**37.8109**	**41.7785**	**0.2009**	**11.6219**	**1.2251**	**12.8470**	**3.1478**	**1.1521**	**4.2998**	**0.0000**	**22,402.7004**	**22,402.7004**	**1.0692**	**1.7803**	**22,959.9452**

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	9.0476	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0890	0.0890	2.3000e-004		0.0948
Energy	0.3102	2.8203	2.3690	0.0169		0.2143	0.2143		0.2143	0.2143		3,384.3288	3,384.3288	0.0649	0.0621	3,404.4401
Mobile	1.2126	21.1157	21.0096	0.1595	11.6219	0.2426	11.8645	3.1478	0.2310	3.3787		16,641.9887	16,641.9887	0.2355	1.7182	17,159.9028
Offroad	1.4744	13.8745	18.3585	0.0245		0.7681	0.7681		0.7066	0.7066	0.0000	2,376.2940	2,376.2940	0.7685		2,395.5075
Total	**12.0448**	**37.8109**	**41.7785**	**0.2009**	**11.6219**	**1.2251**	**12.8470**	**3.1478**	**1.1521**	**4.2998**	**0.0000**	**22,402.7004**	**22,402.7004**	**1.0692**	**1.7803**	**22,959.9452**

H-20

	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	3/1/2023	3/14/2023	5	10	
2	Grading	Grading	3/15/2023	4/25/2023	5	30	
3	Building Construction	Building Construction	4/26/2023	6/18/2024	5	300	
4	Paving	Paving	6/19/2024	7/16/2024	5	20	

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

5	Architectural Coating	Architectural Coating	7/17/2024	8/13/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 10.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 594,000; Non-Residential Outdoor: 198,000; Striped Parking Area: 27,495 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	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	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, Winter

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	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,611.00	14.70	6.90	15.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	358.00	140.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	72.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2023

H-20

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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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	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	0.0616	0.0421	0.5348	1.6000e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		162.0762	162.0762	4.1200e-003	4.3200e-003	163.4672
Total	**0.0616**	**0.0421**	**0.5348**	**1.6000e-003**	**0.2012**	**9.4000e-004**	**0.2021**	**0.0534**	**8.7000e-004**	**0.0542**		**162.0762**	**162.0762**	**4.1200e-003**	**4.3200e-003**	**163.4672**

H-20

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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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	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	0.0616	0.0421	0.5348	1.6000e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		162.0762	162.0762	4.1200e-003	4.3200e-003	163.4672
Total	**0.0616**	**0.0421**	**0.5348**	**1.6000e-003**	**0.2012**	**9.4000e-004**	**0.2021**	**0.0534**	**8.7000e-004**	**0.0542**		**162.0762**	**162.0762**	**4.1200e-003**	**4.3200e-003**	**163.4672**

H-20

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					9.3255	0.0000	9.3255	3.6722	0.0000	3.6722			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.3255**	**1.4245**	**10.7500**	**3.6722**	**1.3105**	**4.9828**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

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	0.2163	10.2066	3.0998	0.0506	1.5806	0.1094	1.6900	0.4334	0.1046	0.5380		5,406.7115	5,406.7115	0.0762	0.8519	5,662.4938
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	0.0684	0.0468	0.5942	1.7800e-003	0.2236	1.0500e-003	0.2246	0.0593	9.6000e-004	0.0603		180.0847	180.0847	4.5800e-003	4.8000e-003	181.6302
Total	**0.2848**	**10.2534**	**3.6940**	**0.0524**	**1.8042**	**0.1104**	**1.9146**	**0.4927**	**0.1056**	**0.5983**		**5,586.7962**	**5,586.7962**	**0.0808**	**0.8567**	**5,844.1240**

H-20

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					9.3255	0.0000	9.3255	3.6722	0.0000	3.6722			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.3255**	**1.4245**	**10.7500**	**3.6722**	**1.3105**	**4.9828**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

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	lb/day										lb/day					
Hauling	0.2163	10.2066	3.0998	0.0506	1.5806	0.1094	1.6900	0.4334	0.1046	0.5380		5,406.7115	5,406.7115	0.0762	0.8519	5,662.4938
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	0.0684	0.0468	0.5942	1.7800e-003	0.2236	1.0500e-003	0.2246	0.0593	9.6000e-004	0.0603		180.0847	180.0847	4.5800e-003	4.8000e-003	181.6302
Total	**0.2848**	**10.2534**	**3.6940**	**0.0524**	**1.8042**	**0.1104**	**1.9146**	**0.4927**	**0.1056**	**0.5983**		**5,586.7962**	**5,586.7962**	**0.0808**	**0.8567**	**5,844.1240**

H-20

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	0.1461	4.8507	1.9467	0.0245	0.8967	0.0400	0.9367	0.2582	0.0382	0.2964		2,600.2312	2,600.2312	0.0259	0.3846	2,715.4787
Worker	1.2252	0.8380	10.6360	0.0319	4.0016	0.0187	4.0203	1.0612	0.0172	1.0785		3,223.5159	3,223.5159	0.0820	0.0860	3,251.1801
Total	**1.3713**	**5.6887**	**12.5827**	**0.0564**	**4.8983**	**0.0587**	**4.9570**	**1.3194**	**0.0555**	**1.3749**		**5,823.7471**	**5,823.7471**	**0.1079**	**0.4705**	**5,966.6588**

H-20

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	0.1461	4.8507	1.9467	0.0245	0.8967	0.0400	0.9367	0.2582	0.0382	0.2964		2,600.2312	2,600.2312	0.0259	0.3846	2,715.4787
Worker	1.2252	0.8380	10.6360	0.0319	4.0016	0.0187	4.0203	1.0612	0.0172	1.0785		3,223.5159	3,223.5159	0.0820	0.0860	3,251.1801
Total	**1.3713**	**5.6887**	**12.5827**	**0.0564**	**4.8983**	**0.0587**	**4.9570**	**1.3194**	**0.0555**	**1.3749**		**5,823.7471**	**5,823.7471**	**0.1079**	**0.4705**	**5,966.6588**

H-20

3.4 Building Construction - 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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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

3.4 Building Construction - 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	0.1437	4.8514	1.9250	0.0241	0.8967	0.0397	0.9364	0.2582	0.0380	0.2962		2,560.2004	2,560.2004	0.0269	0.3781	2,673.5325
Worker	1.1453	0.7461	9.9470	0.0309	4.0016	0.0179	4.0195	1.0612	0.0164	1.0777		3,121.4972	3,121.4972	0.0744	0.0798	3,147.1482
Total	**1.2889**	**5.5975**	**11.8719**	**0.0550**	**4.8983**	**0.0576**	**4.9558**	**1.3194**	**0.0544**	**1.3738**		**5,681.6976**	**5,681.6976**	**0.1012**	**0.4579**	**5,820.6807**

H-20

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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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

3.4 Building Construction - 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	0.1437	4.8514	1.9250	0.0241	0.8967	0.0397	0.9364	0.2582	0.0380	0.2962		2,560.2004	2,560.2004	0.0269	0.3781	2,673.5325
Worker	1.1453	0.7461	9.9470	0.0309	4.0016	0.0179	4.0195	1.0612	0.0164	1.0777		3,121.4972	3,121.4972	0.0744	0.0798	3,147.1482
Total	**1.2889**	**5.5975**	**11.8719**	**0.0550**	**4.8983**	**0.0576**	**4.9558**	**1.3194**	**0.0544**	**1.3738**		**5,681.6976**	**5,681.6976**	**0.1012**	**0.4579**	**5,820.6807**

H-20

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	1.2471					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2353**	**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**

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	0.0480	0.0313	0.4168	1.2900e-003	0.1677	7.5000e-004	0.1684	0.0445	6.9000e-004	0.0452		130.7890	130.7890	3.1200e-003	3.3500e-003	131.8638
Total	**0.0480**	**0.0313**	**0.4168**	**1.2900e-003**	**0.1677**	**7.5000e-004**	**0.1684**	**0.0445**	**6.9000e-004**	**0.0452**		**130.7890**	**130.7890**	**3.1200e-003**	**3.3500e-003**	**131.8638**

H-20

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	1.2471					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2353**	**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**

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	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	0.0480	0.0313	0.4168	1.2900e-003	0.1677	7.5000e-004	0.1684	0.0445	6.9000e-004	0.0452		130.7890	130.7890	3.1200e-003	3.3500e-003	131.8638
Total	**0.0480**	**0.0313**	**0.4168**	**1.2900e-003**	**0.1677**	**7.5000e-004**	**0.1684**	**0.0445**	**6.9000e-004**	**0.0452**		**130.7890**	**130.7890**	**3.1200e-003**	**3.3500e-003**	**131.8638**

H-20

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	189.9180					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**190.0987**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	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	0.2303	0.1501	2.0005	6.2100e-003	0.8048	3.5900e-003	0.8084	0.2134	3.3000e-003	0.2167		627.7872	627.7872	0.0150	0.0161	632.9460
Total	**0.2303**	**0.1501**	**2.0005**	**6.2100e-003**	**0.8048**	**3.5900e-003**	**0.8084**	**0.2134**	**3.3000e-003**	**0.2167**		**627.7872**	**627.7872**	**0.0150**	**0.0161**	**632.9460**

H-20

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	189.9180					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**190.0987**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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	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	0.2303	0.1501	2.0005	6.2100e-003	0.8048	3.5900e-003	0.8084	0.2134	3.3000e-003	0.2167		627.7872	627.7872	0.0150	0.0161	632.9460
Total	**0.2303**	**0.1501**	**2.0005**	**6.2100e-003**	**0.8048**	**3.5900e-003**	**0.8084**	**0.2134**	**3.3000e-003**	**0.2167**		**627.7872**	**627.7872**	**0.0150**	**0.0161**	**632.9460**

H-20

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, Winter

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	1.2126	21.1157	21.0096	0.1595	11.6219	0.2426	11.8645	3.1478	0.2310	3.3787		16,641.9887	16,641.9887	0.2355	1.7182	17,159.9028
Unmitigated	1.2126	21.1157	21.0096	0.1595	11.6219	0.2426	11.8645	3.1478	0.2310	3.3787		16,641.9887	16,641.9887	0.2355	1.7182	17,159.9028

4.2 Trip Summary Information

H-20

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	419.25	419.25	419.25	2,853,381	2,853,381
Unrefrigerated Warehouse-No Rail	358.80	358.80	358.80	2,423,987	2,423,987
Total	778.05	778.05	778.05	5,277,368	5,277,368

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
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	39.90	8.40	15.30	19.30	0.00	80.70	92	5	3
Unrefrigerated Warehouse-No	39.90	8.40	15.30	18.70	0.00	81.30	92	5	3

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
General Office Building	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Refrigerated Warehouse-No Rail	0.518000	0.065000	0.032000	0.032000	0.061000	0.061000	0.038000	0.193000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.552000	0.069000	0.035000	0.035000	0.034000	0.034000	0.054000	0.187000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

H-20

	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	0.3102	2.8203	2.3690	0.0169		0.2143	0.2143		0.2143	0.2143		3,384.3288	3,384.3288	0.0649	0.0621	3,404.4401
NaturalGas Unmitigated	0.3102	2.8203	2.3690	0.0169		0.2143	0.2143		0.2143	0.2143		3,384.3288	3,384.3288	0.0649	0.0621	3,404.4401

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, Winter

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					
General Office Building	56.3836	6.1000e-004	5.5300e-003	4.6400e-003	3.0000e-005		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004		6.6334	6.6334	1.3000e-004	1.2000e-004	6.6728
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
Refrigerated Warehouse-No Rail	27636.6	0.2980	2.7095	2.2760	0.0163		0.2059	0.2059		0.2059	0.2059		3,251.3618	3,251.3618	0.0623	0.0596	3,270.6830
Unrefrigerated Warehouse-No Rail	1073.84	0.0116	0.1053	0.0884	6.3000e-004		8.0000e-003	8.0000e-003		8.0000e-003	8.0000e-003		126.3336	126.3336	2.4200e-003	2.3200e-003	127.0843
Total		**0.3102**	**2.8203**	**2.3690**	**0.0169**		**0.2143**	**0.2143**		**0.2143**	**0.2143**		**3,384.3288**	**3,384.3288**	**0.0649**	**0.0621**	**3,404.4401**

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					
General Office Building	0.0563836	6.1000e-004	5.5300e-003	4.6400e-003	3.0000e-005		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004		6.6334	6.6334	1.3000e-004	1.2000e-004	6.6728
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
Refrigerated Warehouse-No Rail	27.6366	0.2980	2.7095	2.2760	0.0163		0.2059	0.2059		0.2059	0.2059		3,251.3618	3,251.3618	0.0623	0.0596	3,270.6830
Unrefrigerated Warehouse-No Rail	1.07384	0.0116	0.1053	0.0884	6.3000e-004		8.0000e-003	8.0000e-003		8.0000e-003	8.0000e-003		126.3336	126.3336	2.4200e-003	2.3200e-003	127.0843
Total		**0.3102**	**2.8203**	**2.3690**	**0.0169**		**0.2143**	**0.2143**		**0.2143**	**0.2143**		**3,384.3288**	**3,384.3288**	**0.0649**	**0.0621**	**3,404.4401**

H-20

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Mapes & Trumble Industrial Facility Project - Riverside-South Coast County, Winter

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	9.0476	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0890	0.0890	2.3000e-004		0.0948
Unmitigated	9.0476	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0890	0.0890	2.3000e-004		0.0948

6.2 Area by SubCategory

H-20

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	1.0407					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.0031					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8300e-003	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0890	0.0890	2.3000e-004		0.0948
Total	**9.0476**	**3.8000e-004**	**0.0414**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0890**	**0.0890**	**2.3000e-004**		**0.0948**

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	lb/day										lb/day					
Architectural Coating	1.0407					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.0031					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8300e-003	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0890	0.0890	2.3000e-004		0.0948
Total	**9.0476**	**3.8000e-004**	**0.0414**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0890**	**0.0890**	**2.3000e-004**		**0.0948**

H-20

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

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	6	8.00	260	89	0.20	Diesel
Other General Industrial Equipment	6	8.00	260	88	0.34	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	0.5652	5.3011	6.8358	9.1700e-003		0.3061	0.3061		0.2817	0.2817	0.0000	888.1850	888.1850	0.2873		895.3664
Other General Industrial Equipment	0.9092	8.5734	11.5227	0.0154		0.4619	0.4619		0.4250	0.4250	0.0000	1,488.1090	1,488.1090	0.4813		1,500.1411
Total	**1.4744**	**13.8745**	**18.3585**	**0.0245**		**0.7681**	**0.7681**		**0.7066**	**0.7066**	**0.0000**	**2,376.2940**	**2,376.2940**	**0.7685**		**2,395.5075**

H-20

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Construction	
2023	
Annual Emissions (tons/year)	0.0969
Daily Emissions (lbs/day)	0.530958904
Construction Duration (days)	306
Total DPM (lbs)	162.4734247
Total DPM (g)	73697.94542
Start Date	3/1/2023
End Date	1/1/2024
Construction Days	306
2024	
Annual Emissions (tons/year)	0.0547
Daily Emissions (lbs/day)	0.299726027
Construction Duration (days)	227
Total DPM (lbs)	68.03780822
Total DPM (g)	30861.94981
Start Date	1/1/2024
End Date	8/15/2024
Construction Days	227
Total	
Total DPM (lbs)	230.5112329
Total DPM (g)	104559.8952
Emission Rate (g/s)	0.002270514
Release Height (meters)	3
Total Acreage	19.16
Max Horizontal (meters)	393.80
Min Horizontal (meters)	196.90
Initial Vertical Dimension (meters)	1.5
Setting	Urban
Population	79,835
Start Date	3/1/2023
End Date	8/15/2024
Total Construction Days	533
Total Years of Construction	1.46
Total Years of Operation	28.54

```
AERSCREEN 21112 / AERMOD 21112                                        04/14/23
                                                                      11:26:09

TITLE: Mapes and Trumble Industrial Facility Project, Construction


------------------------------------------------------------------------------
*****************************  AREA PARAMETERS  ****************************
------------------------------------------------------------------------------

SOURCE EMISSION RATE:         0.227E-02 g/s            0.180E-01 lb/hr

AREA EMISSION RATE:           0.293E-07 g/(s-m2)       0.232E-06 lb/(hr-m2)
AREA HEIGHT:                       3.00 meters              9.84 feet
AREA SOURCE LONG SIDE:           393.80 meters            1291.99 feet
AREA SOURCE SHORT SIDE:          196.90 meters             646.00 feet
INITIAL VERTICAL DIMENSION:        1.50 meters               4.92 feet
RURAL OR URBAN:                   URBAN
POPULATION:                       79835

INITIAL PROBE DISTANCE =          5000. meters             16404. feet


------------------------------------------------------------------------------
************************  BUILDING DOWNWASH PARAMETERS  ***********************
------------------------------------------------------------------------------

              BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES


------------------------------------------------------------------------------
**************************  FLOW SECTOR ANALYSIS  ****************************
                 25 meter receptor spacing: 1. meters - 5000. meters
------------------------------------------------------------------------------


   MAXIMUM  IMPACT  RECEPTOR

   Zo        SURFACE   1-HR CONC  RADIAL  DIST   TEMPORAL
   SECTOR    ROUGHNESS  (ug/m3)    (deg)   (m)    PERIOD
  ---------------------------------------------------
      1*       1.000     1.374       10   200.0     WIN
* = worst case diagonal


------------------------------------------------------------------------------
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H-20

********** MAKEMET METEOROLOGY PARAMETERS **********

MIN/MAX TEMPERATURE: 250.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE: Average Moisture
DOMINANT SEASON: Winter

ALBEDO: 0.35
BOWEN RATIO: 1.50
ROUGHNESS LENGTH: 1.000 (meters)

H-20

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED

METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR	MO	DY	JDY	HR
10	01	10	10	01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50

HT	REF TA	HT
10.0	310.0	2.0

********** AERSCREEN AUTOMATED DISTANCES **********
OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
1.00	1.052	2525.00	0.4943E-01

25.00	1.104	2550.00	0.4878E-01
50.00	1.154	2575.00	0.4814E-01
75.00	1.200	2600.00	0.4752E-01
100.00	1.241	2625.00	0.4691E-01
125.00	1.280	2650.00	0.4631E-01
150.00	1.315	2675.00	0.4573E-01
175.00	1.348	2700.00	0.4516E-01
200.00	1.374	2725.00	0.4460E-01
225.00	1.254	2750.00	0.4405E-01
250.00	0.9416	2775.00	0.4352E-01
275.01	0.8084	2800.01	0.4300E-01
300.00	0.7182	2825.00	0.4249E-01
325.00	0.6483	2850.00	0.4198E-01
350.00	0.5975	2875.00	0.4149E-01
375.00	0.5533	2900.00	0.4101E-01
400.00	0.5144	2925.00	0.4054E-01
425.00	0.4800	2950.00	0.4008E-01
450.00	0.4494	2975.00	0.3962E-01
475.00	0.4219	3000.00	0.3918E-01
500.00	0.3971	3025.00	0.3874E-01
525.00	0.3748	3050.00	0.3831E-01
550.00	0.3544	3075.00	0.3790E-01
575.00	0.3358	3100.00	0.3749E-01
600.00	0.3189	3125.00	0.3708E-01
625.00	0.3034	3150.00	0.3669E-01
650.00	0.2891	3175.00	0.3630E-01
675.00	0.2759	3200.00	0.3592E-01
700.00	0.2636	3225.00	0.3554E-01
725.00	0.2523	3250.00	0.3518E-01
750.00	0.2420	3275.00	0.3482E-01
775.00	0.2322	3300.00	0.3446E-01
800.00	0.2230	3325.00	0.3412E-01
825.00	0.2145	3350.00	0.3377E-01
850.00	0.2065	3375.00	0.3344E-01
875.00	0.1990	3400.00	0.3311E-01
900.00	0.1920	3425.00	0.3279E-01
925.00	0.1854	3450.00	0.3247E-01
950.00	0.1792	3475.00	0.3215E-01
975.00	0.1733	3500.00	0.3184E-01
1000.00	0.1678	3525.00	0.3154E-01
1025.00	0.1625	3550.00	0.3124E-01
1050.00	0.1575	3575.00	0.3094E-01
1075.00	0.1527	3600.00	0.3065E-01
1100.00	0.1483	3625.00	0.3037E-01
1125.00	0.1440	3650.00	0.3049E-01
1150.00	0.1400	3675.00	0.3021E-01
1175.00	0.1362	3700.00	0.2993E-01
1200.00	0.1325	3725.00	0.2965E-01
1225.00	0.1290	3750.00	0.2938E-01
1250.00	0.1256	3775.00	0.2912E-01

1275.00	0.1224	3800.00	0.2886E-01
1300.00	0.1193	3825.00	0.2860E-01
1325.00	0.1163	3850.00	0.2834E-01
1350.00	0.1135	3875.00	0.2809E-01
1375.00	0.1108	3900.00	0.2785E-01
1400.00	0.1082	3925.00	0.2761E-01
1425.00	0.1058	3950.00	0.2737E-01
1450.00	0.1034	3975.00	0.2713E-01
1475.00	0.1011	4000.00	0.2690E-01
1500.00	0.9886E-01	4025.00	0.2667E-01
1525.00	0.9672E-01	4050.00	0.2645E-01
1550.00	0.9467E-01	4075.00	0.2623E-01
1575.00	0.9269E-01	4100.00	0.2601E-01
1600.00	0.9079E-01	4125.00	0.2579E-01
1625.00	0.8894E-01	4150.00	0.2558E-01
1650.00	0.8715E-01	4175.00	0.2537E-01
1675.00	0.8543E-01	4200.00	0.2516E-01
1700.00	0.8377E-01	4225.00	0.2496E-01
1725.00	0.8216E-01	4250.00	0.2476E-01
1750.00	0.8061E-01	4275.00	0.2456E-01
1775.00	0.7911E-01	4300.00	0.2437E-01
1800.00	0.7766E-01	4325.00	0.2417E-01
1825.00	0.7626E-01	4350.00	0.2398E-01
1850.00	0.7489E-01	4375.00	0.2380E-01
1875.00	0.7356E-01	4400.00	0.2361E-01
1900.00	0.7227E-01	4425.00	0.2343E-01
1925.00	0.7102E-01	4450.00	0.2325E-01
1950.00	0.6980E-01	4475.00	0.2307E-01
1975.00	0.6863E-01	4500.00	0.2290E-01
2000.00	0.6748E-01	4525.00	0.2272E-01
2025.00	0.6638E-01	4550.00	0.2255E-01
2050.00	0.6530E-01	4575.00	0.2239E-01
2075.00	0.6425E-01	4600.00	0.2222E-01
2100.00	0.6324E-01	4625.00	0.2205E-01
2125.00	0.6225E-01	4650.00	0.2189E-01
2150.00	0.6129E-01	4675.00	0.2173E-01
2175.00	0.6035E-01	4700.00	0.2157E-01
2200.00	0.5944E-01	4725.00	0.2142E-01
2225.00	0.5856E-01	4750.00	0.2126E-01
2250.00	0.5769E-01	4775.00	0.2111E-01
2275.00	0.5685E-01	4800.00	0.2096E-01
2300.00	0.5602E-01	4825.00	0.2081E-01
2325.00	0.5522E-01	4850.00	0.2067E-01
2350.00	0.5443E-01	4875.00	0.2052E-01
2375.00	0.5367E-01	4900.00	0.2038E-01
2400.00	0.5292E-01	4925.00	0.2024E-01
2425.00	0.5219E-01	4950.00	0.2010E-01
2450.00	0.5148E-01	4975.00	0.1996E-01
2475.00	0.5079E-01	5000.00	0.1982E-01
2500.00	0.5010E-01		

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	1.374	1.374	1.374	1.374	N/A

DISTANCE FROM SOURCE 201.00 meters

IMPACT AT THE AMBIENT BOUNDARY	1.052	1.052	1.052	1.052	N/A

DISTANCE FROM SOURCE 1.00 meters

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

H-20

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

H-20

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

H-20

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

H-20

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

H-20

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

H-20

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

H-20

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

H-20

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

H- 20

Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

H-20

Rosenfeld P. E., Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution.* **233,** 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

H-20

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

H-20

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

H-20

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

H-20

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

H-20

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the Superior Court of the State of California, County of San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana H-20
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division
Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

H-20

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation
Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al.cvs. Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

H-20

In the United States District Court For the Northern District of Illinois
Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail
Case No. 17-cv-8517
Rosenfeld Deposition 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case No. CV20127-094749
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al vs. CNA Insurance Company et al.
Case No. 1:17-cv-000508
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.
Case No. 1716-CV10006
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.
Case No. 2:17-cv-01624-ES-SCM
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" Defendant.
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No. BC615636
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No. BC646857
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants
Case No. 1:16-cv-02531-RBJ
Rosenfeld Deposition 3-15-2018 and 4-3-2018

H-20

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No. 1923
Rosenfeld Deposition 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintifs vs. Chevron Corporation, et al., Defendants
Cause No. C12-01481
Rosenfeld Deposition 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case No. 1:19-cv-00315-RHW
Rosenfeld Deposition 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No. LC102019 (c/w BC582154)
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., Plaintiffs, vs. Meritor Inc., et al., Defendants
Case No. 4:16-cv-52-DMB-JVM
Rosenfeld Deposition July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No. RG14711115
Rosenfeld Deposition September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No. LALA002187
Rosenfeld Deposition August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action No. 14-C-30000
Rosenfeld Deposition June 2015

In The Iowa District Court for Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No. 4980
Rosenfeld Deposition May 2015

H-20

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case No. CACE07030358 (26)
Rosenfeld Deposition December 2014

In the County Court of Dallas County Texas
Lisa Parr et al, Plaintiff, vs. Aruba et al, Defendant.
Case No. cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., Plaintiffs, vs. Republic Services, Inc., et al., Defendants
Case No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., Plaintiffs, vs. International Paper Company, Defendant.
Civil Action No. 2:09-cv-232-WHA-TFM
Rosenfeld Deposition July 2010, June 2011

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., Plaintiffs, vs. Drummond Company Inc., et al., Defendants
Civil Action No. CV 2008-2076
Rosenfeld Deposition September 2010

In the United States District Court, Western District Lafayette Division
Ackle et al., Plaintiffs, vs. Citgo Petroleum Corporation, et al., Defendants.
Case No. 2:07CV1052
Rosenfeld Deposition July 2009