REDLANDS AVENUE WEST INDUSTRIAL PROJECT
Development Plan Review No. DPR 20-00020
Specific Plan Amendment No. SPA 22-05052
Tentative Parcel Map No. TPM 22-05029

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION (SCH: 2022110113)

Response to Comments/Revisions

Prepared for:

City of Perris
135 N. D Street
Perris, CA 92570
Contact: Chantal Power, Contract Planner

Applicant:

Lake Creek Industrial LLC
13681 Newport Avenue, Suite 8301
Tustin, CA 92780

Prepared By:

SAGECREST
PLANNING + ENVIRONMENTAL

27128 Paseo Espada, Suite #1524
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Contact: Lindsay Ortega, AICP, Vice President

December 2022

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1. INTRODUCTION

An Initial Study/Mitigated Negative Declaration (IS/MND) was prepared for the proposed Redlands Avenue West Industrial Project (Proposed Project) and made available for public comment for a 30-day public review period from November 4, 2022 through December 5, 2022. Five letters providing comments on the IS/MND were received by the City of Perris by the time that the public review ended.

In accordance with the Guidelines for Implementation of the California Environmental Quality Act (State CEQA Guidelines), Section 15074(b) (14 CCR 15074(b)), before approving the Proposed Project, the City of Perris, as the lead agency under CEQA, will consider the MND with any comments received during the public review period. Specifically, Section 15074(b) of the State CEQA Guidelines (14 CCR 15074(b)) states the following:

"Prior to approving a project, the decision-making body of the lead agency shall consider the proposed negative declaration or mitigated negative declaration together with any comments received during the public review process. The decision-making body shall adopt the proposed negative declaration or mitigated negative declaration only if it finds on the basis of the whole record before it (including the initial study and any comments received), that there is no substantial evidence that the project will have a significant effect on the environment and that the negative declaration or mitigated negative declaration reflects the lead agency's independent judgment and analysis."

Pursuant to State CEQA Guidelines Section 15073.5 – Recirculation of a Negative Declaration Prior to Adoption…

(a) A lead agency is required to recirculate a negative declaration when the document must be substantially revised after public notice of its availability has previously been given pursuant to Section 15072, but prior to its adoption. Notice of recirculation shall comply with Sections 15072 and 15073.

(b) A "substantial revision" of the negative declaration shall mean:

(1) A new, avoidable significant effect is identified and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or

(2) The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required.

(c) Recirculation is not required under the following circumstances:

(1) Mitigation measures are replaced with equal or more effective measures pursuant to Section 15074.1.

(2) New project revisions are added in response to written or verbal comments on the project's effects identified in the proposed negative declaration which are not new avoidable significant effects.

(3) Measures or conditions of project approval are added after circulation of the negative declaration which are not required by CEQA, which do not create new significant

environmental effects and are not necessary to mitigate an avoidable significant effect.

(4) New information is added to the negative declaration which merely clarifies, amplifies, or makes insignificant modifications to the negative declaration.

Responses to the comments and revisions to the IS/MND contained herein do not meet any of the circumstances in Section 15073.5(b); therefore, recirculation of the IS/MND would not be required.

2. RESPONSES TO COMMENTS

The agencies, organizations, and individuals that provided substantive written comments on the environmental issues addressed within the IS/MND are listed in Table 1. Although CEQA (California Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (14 CCR 15000 et seq.) do not explicitly require a lead agency to provide written responses to comments received on a proposed IS/MND, the lead agency may do so voluntarily. A copy of each letter with bracketed comment numbers on the right margin is followed by the response for each comment as indexed in the letter. Comment letters and specific comments are given letters and numbers for reference purposes.

Table 1 – Organizations, Persons, and Public Agencies that Commented on the IS/MND

Comment Letter	Commenting Organization, Person, or Public Agency	Date
A	Susan Diaz	November 10, 2022
B	Riverside Transit Agency (RTA)	November 21, 2022
C	Blum Collins & Ho, LLP on behalf of Golden State Environmental Justice Alliance	December 2, 2022 (withdrawn)
D	Center for Community Action and Environmental Justice	December 5, 2022
E	South Coast Air Quality Management District (SCAQMD)	December 5, 2022
F	Adam Salcido	December 5, 2022

a) **Comment Letter A – Susan Diaz**

From: susan Diaz
To: Chantal Power
Subject: Redlands West Industrial Project
Date: Thursday, November 10, 2022 11:12:07 AM

Hello Chantal

I have left Several message at the number 909-754-1653 with a return call back number, with no call back

I'm calling regarding a letter I received for the new project above, I am against this project as is being built in between residential areas, This will cost more traffic in our little city and also it's a environmental health issue with **air quality** be so close to residential homes, Please consider my comment.

If I had the opportunity to move out of the city of Perris, I would move in a heartbeat with all this construction and new project make this city look like trash

If this project takes in place, I will be seeking legal action

If you have any questions please call me at +19515229389

Thank you

Susan Diaz

Sent from Yahoo Mail for iPhone

Response to Comment Letter A – Susan Diaz

The comment is acknowleged. While the Project Site is located adjacent to an existing residential neighborhood to the west, it, as well as the properties to the north, south, and east, are located within the Perris Valley Commerce Center Specific Plan (PVCCSP) planning area of the City of Perris and are zoned for Light Industrial uses. The Proposed Project would not change the uses that have been planned for the Project Site since the PVCCSP was adopted by the City of Perris City Council in January 2012.

The potential transportation and air quality impacts of the Proposed Project are analyzed in Section 5.17, Transportation and Section 5.3, Air Quality of the IS/MND. The Air Quality section specifically evaluated the potential localized impacts of construction-related emissions, operational emissions, and diesel particulate health risks on the adjcent residential neighborhood. Although the transportation and air quality impacts of the Project were determined to be less than significant, the IS/MND identifies the applicable mitigation measures from the PVCCSP EIR that will be implemented and serve to further reduce air pollutant emissions.

This comment does not question the content or conclusions of the IS/MND. No additional response is required.

b) **Comment Letter B – Riverside Transit Agency (RTA)**

From:	Chantal Power
To:	christine@csaundersassociates.com
Cc:	Kelly Ribuffo
Subject:	FW: Redlands West Industrial Project
Date:	Monday, November 21, 2022 2:19:06 PM
Attachments:	image002.png

We received the comment below from the Riverside Transit Agency for the Redlands West project.

CHANTAL POWER, AICP
SENIOR PLANNER

INTERWEST
A SAFEbuilt COMPANY
cpower@interwestgrp.com
909.754.1653
interwestgrp.com

From: Mauricio Alvarez <malvarez@riversidetransit.com>
Sent: Monday, November 21, 2022 11:27 AM
To: Chantal Power <cpower@interwestgrp.com>
Subject: Redlands West Industrial Project

Good Morning Ms. Power,

Thank you for including Riverside Transit Agency in this transmittal to review the Redlands West Industrial Project in the City of Perris. After reviewing the notice, the only recommendation is to include sidewalk along the frontage of project, on Redlands Ave, so that individuals can connect to public transportation. RTA has active stops on Rider & Redlands, which is near this project.

Thank you for considering this comment.

Mauricio Alvarez, MBA
Planning Analyst
Riverside Transit Agency
p: 951.565.5260 | e: malvarez@riversidetransit.com
Website | Facebook | Twitter | Instagram
1825 Third Street, Riverside, CA 92507

Response to Comment Letter B – Riverside Transit Authority

The comment is ackowledged. The Proposed Project includes a 7-foot dedication from the existing right-of-way limit of the Redlands Avenue street frontage in order to implement an 8-foot-wide Class I shared-use pedestrian and bicycle path, consistent with the recently adopted City of Perris Active Transportation Plan.

c) **Comment Letter C – Blum Collins & Ho, LLP on behalf of Golden State Environmental Justice Alliance**

Please see attachment for complete comment letter.

C.1 – Letter of withdraw received on December 14, 2022
C.2 – Letter received on December 2, 2022

Response to Comment Letter C – Blum Collins & Ho, LLP on behalf of Golden State Environmental Justice Alliance

Response to Comment Letter C.1

As stated in this comment, the original letter submitted to the City on behalf of the Golden State Environmental Justice Alliance (Letter C.2) has been withdrawn. This letter does not question the content or conclusions of the IS/MND and no further response is required.

Response to Comment Letter C.2

As discussed above for Letter C.1, this comment letter has been withdrawn by the commenter. Therefore, no formal response to the comments raised in the letter is required.

d) **Comment Letter D – Center for Community Action and Environmental Justice**

December 5, 2022

City of Perris – Planning Division
Attn: Chantal Power, Contract Planner
135 N. D Street
Perris, Ca 92570

Submitted via email to cpower@interwestgrp.com.

Re: DPR 20-00020 Redlands West Industrial Project Mitigated Negative Declaration (SCH #2022110113)

Dear Ms. Power:

This letter is being provided on behalf of the Center for Community Action and Environmental Justice (CCAEJ) in response to the Mitigated Negative Declaration which has been prepared for the proposed DPR 20-00020 Redlands West Industrial Project.

We are concerned about the proposal to place a warehouse directly against a residential community. Industrial development, such as the proposed Project, can result in high daily volumes of heavy-duty diesel truck traffic and operation of on-site equipment (e.g., forklifts and yard tractors) that emit toxic diesel emissions, and contribute to regional air pollution and global climate change. The Project will expose our communities to elevated levels of air pollution. Residences are located south and west of the Project with the closest residences located directly adjacent the Project's western boundary. In addition to the residences, other sensitive receptors such as Triple Crown Elementary, Paragon Park, Liberty Park, Paws Dog Park, and Morgan Park are all located within a mile of the Project site. D-1

The reasoning that we usually hear from developers and the data being generated in CEQA documents is that our air quality meets the nonattainment classification. "Nonattainment" is the technical term that simply means an area has too much of one of the nation's most widespread and dangerous air pollutants, such as ozone. It means that an area must clean up emissions to reach, or "attain," the official, health-based limits for that pollutant. However, what we have seen developers conclude is that the air quality is so poor that there is nothing that can be done to mitigate the air quality that they have the **RIGHT** to further increase the pollution levels. This was not the intent of the Clean Air Act which gives everyone the right to protection from air pollution above the legal limit. The nonattainment reflects the inaction of Community Leaders to demand mitigation, it does not grant permission to developers to continue to pollute without ramifications. D-2

Another worry is about Transport Refrigeration Units (TRUs). It was not clear from the MND documents whether or not the proposed warehouse would be used for cold storage so there remains a possibility that trucks and trailers visiting the Project site would be equipped with TRUs. TRUs on trucks and trailers can emit copious quantities of diesel exhaust while operating within the Project-site. Residences and other sensitive receptors (e.g., daycare facilities, senior care facilities, D-3

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and schools) located near where these TRUs could be operating would be exposed to diesel exhaust emissions that would result in a significant cancer risk impact to the nearby community.

If the Project will not be used for cold storage, the City and applicant should include one of the following design measures in the EIR: A Project design measure requiring contractual language in tenant lease agreements that prohibits tenants from operating TRUs within the Project-site; or Condition requiring a restrictive covenant over the parcel that prohibits the applicant's use of TRUs on the property unless the applicant seeks and receives an amendment to its conditional use permit allowing such use and completes an updated EIR and mitigation for those operations. D-4

OEHHA guidance recommends assessing cancer risks for construction projects lasting longer than two months. Since the MND states that construction would occur over a period lasting longer than two months, the HRA prepared for the Project must include health risks for existing residences near the Project-site during construction. The HRA should account for all diesel PM emission sources related to Project construction, including, but not limited to, off-road mobile equipment, diesel generators, and on-road heavy-duty trucks. As previously stated in Section I of this letter, the cancer risks evaluated in the construction HRA should be based on the latest OEHHA guidance and CARB's HARP2 model. The cancer risks reported in the HRA should be calculated using the latest emission factors obtained from CARB's latest EMFAC (currently EMFAC 2021) and off-road models. D-5

We know urban green spaces such as parks and urban forests can help reduce heat and improve air quality. Recent systematic reviews have assessed a range of evidence to understand the benefits and value of urban trees, urban parks and the overall effectiveness of green space to reduce heat, ozone and ultraviolet (UV) radiation in urban areas (see Roy, Byrne & Pickering, 2012; Konijnendijk et al, 2013 and Bowler, Buyung-Ali, Knight & Pullin, 2010). Trees and plants have a varying capacity to capture and/or filter air pollution, improve air circulation and decrease ambient temperatures. We encourage that any and all projects encourage native species that are drought tolerant in place of grass. We also would like to ask that a standard for any landscaping include Live oak trees, cypress trees, Mediterranean pines, and other plants that are carbon capturing. D-6

While it is encouraging to see that trees are included in the plans for the Redlands Avenue side, that is not the area where they are most needed and we would like to see them added on the western boundary between the Project and residences to provide some level of cleaner air benefits to those people too. It is also crucial the trees facing the community would consist of either live oak trees and or Mediterranean pines to be planted at maturity of 15 to 20 feet in height. The community does not have time to wait for sapling trees to mature to scrub our air, we need full grown trees that can help scrub the air to prevent the shrapnel effects of contaminated air on children's lungs, the developing bodies of the unborn, the sanctity of a mother's womb, and the penile function of hardworking men bravely working in such an environment for their families.

Thank you for taking the time to review these concerns and address them as part of the Project to ensure that it is delivering the best possible outcome for the community. While we understand that the airport flight path restrictions do place a limitation on what can be built in the location, that is no reason to leave the community stuck with a polluting albatross and we hope that these changes

can be made to provide more. If there are any other questions or comments about the concerns we have raised here, please do not hesitate to reach out to have them addressed.

Sincerely,

Ana Gonzalez

Ana Gonzalez
Executive Director

CCAEJ is a long-standing community based organization with over 40 years of experience advocating for stronger regulations through strategic campaigns and building a base of community power. Most notably, CCAEJ's founder Penny Newman won a landmark federal case against Stringfellow Construction which resulted in the `Stringfellow Acid Pits' being declared one of the first Superfund sites in the nation. ***CCAEJ*** prioritizes community voices as we continue our grassroots efforts to bring lasting environmental justice to the Inland Valley Region.

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Response to Comment Letter D – Center for Community Action and Environmental Justice

Response to Comment D-1

This comment provides a summary of air quality concerns related to the proximity of the Project Site to nearby residential, schools, and parks. While the Project Site is located adjacent to an existing residential neighborhood to the west, it, as well as the properties to the north, south, and east, are located within the Perris Valley Commerce Center Specific Plan (PVCCSP) planning area of the City of Perris and are zoned for Light Industrial uses. The Proposed Project would not change the uses that have been planned for the Project Site since the PVCCSP was adopted by the City of Perris City Council in January 2012.

Sensitive receptors adjacent to the Project Site were identified in Section 5.3, Air Quality. A sensitive receptor is defined by the SCAQMD as any residence including private homes, condominiums, apartments, and living quarters, schools as defined under paragraph (b)(57), preschools, daycare centers and health facilities such as hospitals or retirement and nursing homes. Also included are long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

The nearest sensitive receptors to the Project Site include the existing single-family residential dwelling units and mobile home park located adjacent to the west, the single-family residential uses located approximately 80 feet to the east and 335 feet southeast (across Redlands Avenue), and the single-family residential uses located approximately 780 feet north (north of Rider Street) of the Project Site. All sensitive receptors were considered in the analysis presented in Appendix A and within the IS/MND. All of the regional and localized air quality impacts were determined to be less than significant. Although the air quality impacts of the Project were determined to be less than significant, the IS/MND identifies the applicable mitigation measures from the PVCCSP EIR that will serve to further reduce air quality impacts.

Response to Comment D-2

There is no presumption in the IS/MND or Air Quality, Global Climate Change, HRA, and Energy Impact Analysis (Appendix A to the IS/MND) analyses that the Project has a "right" to increase pollution levels. As discussed on Page 12 of the Air Quality, Global Climate Change, HRA, and Energy Impact Analysis, the SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. It has responded to this requirement by preparing a sequence of AQMPs. The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air. The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. As discussed on pages 44 through 46 of the IS/MND, the Project is consistent with the

2016 AQMP and, therefore, cannot be assumed to contribute to to the exceedance of any air quality pollutant concentration standards.

In addition, a significant impact would occur if the Project results in a cumulatively **considerable net increase** (emphasis added) of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Although the Project would result in the generation of construction-related and operational emissions, the SCAQMD has identified regional and localized thresholds for individual creteria pollutants over which the increase in emissions would be considerable and, therefore, significant. As discussed on pages 46 through 52 of the IS/MND, the emissions generated by the Project would not exceed any of these thresholds of significance. Although the air quality impacts of the Project were determined to be less than significant, the IS/MND identifies the applicable mitigation measures from the PVCCSP EIR that will serve to further reduce air quality impacts.

Response to Comment D-3

This comment asks for clarification on the Project Description as provided in the IS/MND. As stated on pages 1, 5, 6, 14, 15, 91, 101, 111, 115, and 121 of the IS/MND, the Applicant proposes the construction of one 334,040-square-foot **non-refrigerated** (emphasis added) warehouse with two grade level doors, 68 truck dock positions, and associated landscaping, parking, drive aisles, and road improvements on 20.14 gross acres. No cold storage in proposed and the use of Transport Refridgeration Units (TRUs) at the Project Site is not expected.

Response to Comment D-4

This comment recommends that the City and Applicant consider measures to restrict the use of TRUs at the Project Site in the future. Although the use of TRUs at the Project Site is not expected, the City has included a condition of approval that prohibits TRUs from operating at the Project Site and that requires this restriction be included a restrictive covenant over the property. The City concurs that should use of TRUs be proposed in the future, this would not be consistent with the analysis included in the IS/MND and supporting technical studies, and preparation of additional environmental documentation and technical analysis (i.e., air quality and health risk assessment) pursuant to CEQA would be required to analyze potential environmental impacts.

Response to Comment D-5

The SCAQMD does not require projects to conduct construction HRAs and leaves that determination to the lead agency. The City of Perris currently does not require a project to conduct a construction HRA.

As shown in the Air Quality, Global Climate Change, HRA, and Energy Impact Analysis on pages 27 and 28, the impact of construction-related emissions on nearby receptors has been addressed in the Construction LST analysis and is discussed under the heading Construction-Related Local Impacts. This discussion in the Air Quality, Global Climate Change, HRA, and Energy Impact

Analysis shows that "none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, a less than significant local air quality impact would occur from construction of the proposed project." Furthermore, it states that "Because regional and local emissions of criteria pollutants during construction of the project would be below the applicable thresholds, it would not contribute to long-term health impacts related to nonattainment of the ambient air quality standards. Therefore, significant adverse acute health impacts as a result of project construction are not anticipated." Construction-related toxic air contaminants (TACs) are also addressed on page 27 where it states that "health effects from TACs are described in terms of individual cancer risk based on a lifetime (i.e., 30-year) resident exposure duration. Given the temporary and short-term construction schedule (approximately 9 months), the project would not result in a long-term (i.e., lifetime or 30-year) exposure as a result of project construction. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds."

Therefore, no construction HRA is warranted or required. Impacts from construction emissions are considered to be less than significant both on a local and regional level. No mitigation is required.

Response to Comment D-6

The comment is acknowledged. Prepartion of the conceptual landscape plan for the Proposed Project has been developed in collaboration with City of Perris staff to determine the appropriate species, size, and spacing for trees within the Project Site to comply with on-site landscape standards for the PVCCSP. As stated on page 11 of the IS/MND, "The facility will provide approximately 118,146 SF of landscaped area (approximately 14.18 percent of the net lot area), which exceeds the 12 percent minimum." "The Redlands Avenue frontage will be lined with a mix of African sumac trees and lavender crepe myrtle with accents thornless palo verde trees. African sumac trees are planned for the northern and southern site boundaries, and drought tolerant low shrubs are planned for adjacent to the tubular steel fence. Brisbane box trees will provide shade for the outdoor bocce court. For the western boundary of the property, which is separated from the single-family residences by a 30-foot-wide SCE easement and 10-foot-wide sloped landscape easement, a decomposed granite walking path lined with a variety of ornamental shrubs will be placed to meander through the SCE easement. The sloped landscape easement will be planted with a variety of ornamental shrubs and trees. A new 14-foot-high block wall will line the eastern edge of the sloped landscape easement. An additional 10-foot-wide planter will line the warehouse side of the block wall and be planted with trees and ornamental shrubs.

As the project's emissions do not exceed any SCAQMD thresholds of significance, there is no requirement for the installation of plants that clean the air. The use of drought-tolerant plants is required per City regulations. Furthermore, according to the EPA:

> removal of gaseous pollutants by trees can be permanent, while trees typically serve as a temporary retention site for particles. The removed particles can be re-suspended to the atmosphere during turbulent winds, washed off by precipitation, or dropped to the ground with leaf and twig fall. These removal mechanisms can impact local air, water and soil pollution; thus, careful consideration of the land uses that surround roadside vegetation are needed when choosing species...The complex and porous structure of trees and bushes can modify near-road concentrations via pollutant capture or through altering air flow, which can result in either reduced dispersion through the reduction of wind speed and boundary layer heights (Nowak et al., 2000; Wania et al., 2012) or in enhanced dispersion due to increased air turbulence and mixing. Recirculation zones have also been observed immediately downwind of forested areas with a flow structure consistent with an intermittent recirculation pattern (Detto et al., 2008; Frank and Ruck, 2008). Vegetation type, height, and thickness can all influence the extent of mixing and pollutant deposition experienced at the site. (Recommendations for Constructing Roadside Vegetation Barriers to Improve Near-Road Air Quality. July 2016)

As the effectiveness of vegetative barriers to clean the air is variable, and the trees planted on-site need to be drought tolerant and meet the City's requirements, the planting of the commenter's suggested flora is not a viable option and not warranted as the project's emissions do not exceed the SCAQMD thresholds of significance.

e) **Comment Letter E – South Coast Air Quality Management District (SCAQMD)**

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA E-MAIL:
cpower@interwestgrp.com
Chantal Power, Contract Planner
City of Perris Development Services - Planning Division
135 N. D Street
Perris, California 92570

December 5, 2022

Mitigated Negative Declaration (MND) for the Proposed Redlands Avenue West Industrial Project (Proposed Project)

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. The City of Perris is the California Environmental Quality Act (CEQA) Lead Agency for the Proposed Project. The following comments include recommended revisions, cumulative impact discussion, and information about South Coast AQMD permits that the Lead Agency should include in the Final MND.

South Coast AQMD Staff's Summary of Project Information in the MND

Based on the MND, the Proposed Project consists of construction and operation of a 334,040-square-foot building for warehouse activities on a 20.14-acre site that is located on the west side of Redlands Avenue, north of Placentia Avenue and south of East Rider Street in the City of Perris.[1] The Proposed Project is also located within the Perris Valley Commerce Center Specific Plan (PVCCSP) planning area.[2] Construction of the Proposed Project is anticipated to begin in the second quarter of 2022.[3] Operation is expected to begin in 2023.[4] The 330,040-square-foot warehouse portion[5] with 68 loading docks[6] is expected to involve 163 truck trips (round trip) per day[7]. Based on a review of aerial photographs, South Coast AQMD staff found that the nearest sensitive receptor (e.g., residence) is within ~50 feet of the Proposed Project.

E-1

South Coast AQMD Staff's Comments

Health Risk Impacts during Project Operation

In the Appendix A, "Redlands Avenue West Industrial Project Air Quality, Global Climate Change, Health Risk Assessment and Energy Impact Analysis" by Ganddini Group, August 26, 2021 and its technical modeling files, South Coast AQMD staff found there are more than ten

E-2

[1] Mitigated Negative Declaration. Introduction. Page 1.
[2] *Ibid*.
[3] Appendix A. Redlands Avenue West Industrial Project Air Quality, Global Climate Change, Health Risk Assessment and Energy Impact Analysis. Appendix B CalEEMod Model Daily Emission Printouts, Summer. Page 7.
[4] *Ibid*. Page 1.
[5] Mitigated Negative Declaration. 5.17 Transportation. Page 159.
[6] *Ibid*. Introduction. Page 1
[7] Appendix I. Redlands Avenue West Industrial Project DPR20-00020 Traffic Impact Analysis, 4. Project Trip Forecasts, Table 2. Page 21.

houses located in between the receptor #1 and #2 but they are not included as residential receptors in the model. Given the highest ground level concentration of diesel particulate matters from the dispersion modeling results is expected to occur around receptor #1 and #2 on the west side of Proposed Project Site, it appears that the receptors in the model are not dense enough to capture the maximum pollutant concentrations to estimate the maximum cancer risk values. South Coast AQMD staff recommends that the Lead Agency revise the health risk assessment and dispersion modeling files by adding more residential receptors on the west side of facility. E-2

In addition, it is not clear in the MND if the stationary combustion engines (e.g. diesel firewater pump, diesel emergency generator, and etc.) or off-road combustion mobile source (e.g. diesel forklift) will be used onsite during operation. If any of these will be used when implementing the Proposed Project, they will need to be added as additional sources to the health risk assessment and dispersion modeling files. E-3

South Coast AQMD Permits and Responsible Agency

If the implementation of the Proposed Project, including more than 334,040 square foot warehouse including 163 daily diesel truck trips (round-trip) with 68 dock doors, would require use of new stationary equipment including but not limited to emergency generators, fire water pumps, and etc., permits from South Coast AQMD are required. The Final MND should include a discussion on those equipment requiring South Coast AQMD permits and identify South Coast AQMD as a Responsible Agency for the Proposed Project. Any assumptions used for the stationary sources in the Final MND will also be used as the basis for the permit conditions and limits for the Proposed Project. Please contact South Coast AQMD's Engineering and Permitting staff at (909) 396-3385 for questions on permits. For more general information on permits, please visit South Coast AQMD's webpage at: http://www.aqmd.gov/home/permits. E-4

Cumulative Impacts during Project Operation

The Proposed Project is located within the Perris Valley Commerce Center Specific Plan (PVCCSP) planning area. The PVCCSP was approved pursuant to a certified Environmental Impact Report (EIR) on 1/10/2012.[8] Prior to certification of the PVCCSP, a Draft EIR was released for public review and comment between 7/20/2011 – 9/6/2011.[9] During this public review period the South Coast AQMD submitted a comment recommending the Lead Agency include a more robust analysis of cumulative impacts in the Final EIR. Specifically, the South Coast AQMD asked that the lead agency revisit the estimated number of trucks projected to serve the site, provide additional analysis demonstrating that the project will not significantly impact sensitive receptors during operation and that it will not cause a significant air quality and air toxics impact, and to evaluate additional mitigation measures to further reduce any significant air quality and air toxics impacts. The PVCCSP has been revised and amended many times since 2012, the most recent Perris Valley Commerce Center Specific Plan Amendment No. 12, was E-5

[8] ORDINANCE NUMBER 1284.
Accessed here: https://www.cityofperris.org/home/showpublisheddocument/2923/637250482796800000

[9] Final EIR. 9.0 Introduction, Public Review Summary. Page 9.0-1
Accessed here: https://www.cityofperris.org/home/showpublisheddocument/2645/637455522835370000

approved on January 11, 2022[10]. However, the cumulative impacts from the revised projects in PVCCSP are not updated and a robust analysis of cumulative air quality and air toxics impacts from all the projects in PVCCSP is not included in the PVCCSP or this MND.

Per CEQA Guidelines Section 15065(a)(3), South Coast AQMD staff is primarily concerned with the cumulative air quality impacts from increased concentrations of air toxics in the PVCCSP region. Therefore, South Coast AQMD staff recommends that, at minimum, the Lead Agency to perform a qualitative analysis to provide the potential cumulative impacts from air toxics in consideration and listing of all surrounding past, present, and future probable projects. The Lead Agency may also perform a more detailed and robust quantitative analysis of cumulative air toxics and potential health risk implications to include in the Final MND. E-5

Conclusion

Pursuant to CEQA Guidelines Section 15074, prior to approving the Proposed Project, the Lead Agency shall consider the MND for adoption together with any comments received during the public review process. Please provide South Coast AQMD with written responses to all comments contained herein prior to the adoption of the Final MND. When responding to issues raised in the comments, responses should provide sufficient details giving reasons why specific comments and suggestions are not accepted. There should be good faith, reasoned analysis in response. Conclusory statements unsupported by factual information do not facilitate the purpose and goal of CEQA on public disclosure and are not meaningful, informative, or useful to decision makers and the public who are interested in the Proposed Project. E-6

South Coast AQMD staff is available to work with the Lead Agency to address any air quality questions that may arise from this comment letter. Please contact Evelyn Aguilar, Air Quality Specialist, at eaguilar@aqmd.gov, should you have any questions or wish to discuss the comments.

Sincerely,

Sam Wang

Sam Wang
Program Supervisor, CEQA-IGR
Planning, Rule Development and Implementation

SW:EA
RVC221108-02
Control Number

[10] Perris Valley Commerce Center Specific Plan Amendment No. 12, approved January 11, 2022, available at https://www.cityofperris.org/home/showpublisheddocument/2647/637799977032200000

Response to Comment Letter E – South Coast Air Quality Management District

Response to Comment E-1

This comment has correctly summarized the Project Description as presented in the IS/MND and corresponding entitltment application with the City of Perris. This comment does not question the content or conclusions of the IS/MND and no further response is required.

Response to Comment E-2

As stated in Section 3 on page 42 of the Air Quality, Global Climate Change, HRA, and Energy Impact Analysis, "Figure 3 provides the location of the project buildings, emission source locations, and the locations of the nearest sensitive receptors (the existing single-family residential dwelling units and mobile home park located adjacent to the west, the single-family residential uses located approximately 80 feet to the east and 335 feet southeast (across Redlands Avenue), and the single-family residential uses located approximately 780 feet north (north of Rider Street) of the project site). Residential receptors are shown as orange triangles labeled 1 through 7." Additionally, under the heading Receptor Network, it states that "Receptors were located at existing sensitive receptors surrounding the proposed project (as detailed above). In addition, the identified sensitive receptor locations were supplemented by the specification of a modeling grid that extended around the proposed project to identify other potential locations of impact." These Cartesian receptors, together with the discrete receptors, are also shown on page 54 of the Air Quality, Global Climate Change, HRA, and Energy Impact Analysis in Figure 3, AERMOD Model Source and Receptor Placement. Therefore, the discrete receptors that are detailed above were used to show the impacts at the most-impacted receptors closest to the site. The "modeling grid" that was described on page 42 of the Air Quality, Global Climate Change, HRA, and Energy Impact Analysis is a Cartesian receptor grid that places a receptor every 50 meters per SCAQMD guidance. It is through the use of this grid that the diesel particuloate matter (DPM) concentration contours are able to be shown in Figure 5, Modeled Study Area Highest Annual. As shown in Figure 5 on page 56 of the Air Quality, Global Climate Change, HRA, and Energy Impact Analysis, the concentration contour of 0.5 in a million covers all of the houses between receptors #1 and #2 and shows that those receptors would be exposed to similar DPM emissions concentrations from project-related DPM emissions as those reported for discrete receptors #1 and #2. Therefore, the receptor network was as dense a required and the highest cancer risks to the closest receptors were accurately reported in Tables 15 through 19 of the Air Quality, Global Climate Change, HRA, and Energy Impact Analysis.

However, to be conservative and comply with SCAQMD's request, two additional discrete receptors (receptors #8 and #9) were added in between discrete receptors #1 and #2. The HRA was re-modeled with these additional receptors and the updated results are shown in Tables 15 through 19 of the revised Air Quality, Global Climate Change, HRA, and Energy Impact Analysis. Receptor #2 still remains the most impacted receptor.

Response to Comment E-3

In regards to the stationary emissions sources of combustion engines (e.g., diesel firewater pump, diesel emergency generator, and etc.) or off-road combustion mobile source (e.g., diesel forklift) that will be used onsite during operation, the applicant was consulted and has confirmed that there will be a 200 HP diesel emergency fire pump that would be used on site that would run less than 12 hours per year. This emissions source was added to both the CalEEMod and AERMOD revised model runs. Furthermore, to be conservative, a 400 HP diesel emergency back-up generator and two CNG forklifts (as they would be used inside the warehouse) were also added to the modeling and the results shown in the revised Air Quality, Global Climate Change, HRA, and Energy Impact Analysis.

With the addition of the emergency fire pump and the emergency back-up generator, the most impacted sensitive receptor is still at receptor location 2, with a 30.25-year cumulative health risk of 2.3 in a million. Therefore, as show in Section 3 of the revised Air Quality, Global Climate Change, HRA, and Energy Impact Analysis, the cancer risk still does not exceed 10 in a million and there is no change in the significance findings in the analysis. No mitigation is required.

Response to Comment E-4

The comment is acknowledged. As stated in the response to Comment E-3, the Applicant has stated that there will be a 200 HP diesel emergency fire pump that would be used on site that would run less than 12 hours per year. The IS/MND has been updated include a discussion regarding the necessity for the fire pump and that the permit will be applied for an obtained in compliance SCAQMD rule.

Response to Comment E-5

As discussed in the City's response to the SCAQMD's comments on the PVCCSP EIR, (Response to Comment L-4), the PVCCSP was analyzed with a "programmatic" approach (PVCCSP DEIR, p. 3.0-7) and the PVCCSP EIR is considered to be a programmatic document, as defined in Section 15168 of the State CEQA Guidelines. When a programmatic EIR is prepared, later activities, which for the PVCCSP consists of implementing development and infrastructure projects, must be examined to determine whether an additional environmental document is required.[1] This evaluation takes place as part of the City's normal development review process.

Because at the programmatic level, there were no specific implementing development projects proposed or truck trip data available, a meaningful analysis of health risk impacts could not be performed at this stage of master planning. Therefore, the PVCCSP EIR concluded that any such analysis would be, at best, speculative (PVCCSP DEIR, p. 4.2-49) and did not discuss the issue further as allowed per Section 15145 of the State CEQA Guidelines. Thus, the PVCCSP EIR's conclusions related to the individual PVCCSP implementing development and infrastructure

[1] State CEQA Guidelines Section 15168(c).

projects exposing sensitive receptors to substantial pollutant concentrations were based on the health risks from previously evaluated industrial projects within the PVCCSP vicinity (PVCCSP DEIR Table 4.2-M) and the determination from the General Plan EIR. However, PVCCSP EIR mitigation measure MM Air 15 specifically requires a health risk assessment to identify project-specific impacts resulting from the use of diesel trucks from potential implementing development projects based on the number of dock doors and truck trips.

Additionally, there is no methodology to quantify the cumulative areawide or localized health risks from multiple facilities within a community-wide area. This is because the SCAQMD's recommended thresholds of significance (utilized by the City of Perris to evaluate air quality impacts of proposed projects) apply to individual development projects and are meant to evaluate the incremental increase in emissions from a proposed source. These thresholds do not apply to the emissions generated by a group of related or cumulative projects. Therefore, a community wide HRA was not required for the PVCCSP. Furthermore, the City uses the SCAQMD's recommended methodology to evaluate cumulative impacts, which is to conclude that an impact that is considered to be significant on a project-specific basis would also cause a significant cumulative impact. Individual HRAs have been prepared for nearly every individual light industrial project proposed within the PVCCSP planning area.

The City is aware of the toxic air contaminant and health risk conditions within its jurisdiction and surrounding areas. In the northern part of the City of Perris (zip code 92571), the SCAQMD's Multiple Air Toxics Exposure Study (MATES) V study identifies a cancer risk of 308 per million. Of this risk, 68.8% is associated with diesel PM. The air toxics cancer risk in this area is higher than only 15% of the South Coast Air Basin population. The cancer risk in the southern part of the City (zip code 92585) is 288 per million. In comparison, the greatest cancer risk in Riverside County is 469 per million within the 92501 zip code of the City of Riverside. The greatest cancer risk within the South Coast Air Basin is 749 per million in downtown Los Angeles. It is not the responsibility of one individual development project to evaluate the potential health risks associated with the existing and future development of all properties within a community planning area. Instead, as per the State CEQA Guidelines, the HRA provides an analysis to determine whether the Proposed Project would expose sensitive receptor to substantial DPM pollutant concentrations utilizing the methodologies and thresholds of significance recommended for individual development projects by the SCAQMD.

Response to Comment E-6

The comments provided by SCAQMD have been accepted and considered with responses provided in Response to Comments D-1 through D-5.

f) **Comment Letter F – Adam Salcido**

From: A S
To: Chantal Power
Cc: jbourg2271@aol.com; t.lucio57@gmail.com; phaninger1@gmail.com
Subject: Re: ZAP1546MA22 - Lake Creek Industrial LLC (Representative: Saaecrest Planning)
Date: Monday, December 5, 2022 9:00:20 AM
Attachments: image002.png

Good Morning Ms. Power,

Just wanted to confirm that the following addresses listed below will receive updates and notifications on the DPR 20-00020 Redlands West Industrial Project.

I understand that you informed us that this project will be scheduled for the Planning Commission on December 21. I also wanted clarification if the project still stands to be heard at this meeting.

Thank you so much for your time, consideration, and assistance.

t.lucio57@gmail.com

phaninger1@gmail.com

jbourg2271@aol.com

jbourgeois029@gmail.com

asalcido.07@gmail.com

Mailing Address:

P.O. Box 79222

Corona, CA 92877

On Mon, Oct 31, 2022 at 10:44 AM Chantal Power <cpower@interwestgrp.com> wrote:

> The NOI for this project is posting this Friday and a notice will be sent to your organization. The project is scheduled for a Planning Commission meeting on December 21, 2022.
>
> CHANTAL POWER, AICP
>
> **SENIOR PLANNER**

INTERWEST
A SAFEbuilt COMPANY

cpower@interwestgrp.com
909.754.1653
interwestgrp.com

From: jbourg2271@aol.com <jbourg2271@aol.com>
Sent: Friday, October 28, 2022 12:21 PM
To: Chantal Power <cpower@interwestgrp.com>
Cc: jbourg2271@aol.com; t.lucio57@gmail.com; phaninger1@gmail.com; asalcido.07@gmail.com
Subject: ZAP1546MA22 - Lake Creek Industrial LLC (Representative: Saaecrest Planning)

Good afternoon Ms. Powers,

We received the attached notice regarding a project that stated to contact you for any City of Perris questions. I cannot locate the project on the City's Planning page.

Please advise on the details of this project and provide an MND or EIR for review.

Thank you,

Joe Bourgeois

Response to Comment Letter F – Adam Salcido

The comment is acknowledged. The letter asks for confirmation that the email and mailing addresses listed in the letter will receive updates and notifications regarding the Proposed Project and clarification regarding the hearing schedule for the Proposed Project. Notification will be provided to these addresses and the current scheduole for the Planning Commission hearing on the Project is correct. This comment does not question the content or conclusions of the IS/MND. No further response is required.

3. REVISIONS TO THE IS/MND

In response to comments, minor clarifying revisions were made to the Draft IS/MND and Appendix A.

Revisions to Appendix A:

- The HRA was re-modeled with two additional receptors (Receptors #8 and 9) and the updated data printout is included in Appendix C of the report.

- Tables 15 through 19 (Pages 50 to 54) have been updated with data consistent with the results of the updated AERMOD model including Receptors #8 and 9.

- Figures 3 (Page 55) and Figure 5 (Page 57) have been updated to show the location of Receptors # 8 and 9.

Revisions to the Draft IS/MND:
The following revisions corresponding to those made in Appendices A were made:

- Page iv, Appendices

  Reference for Appendix A has been updated to reflect the date of the revised report:

  Appendix A – *Redlands Avenue West Industrial Project Air Quality, Global Climate Change, HRA and Energy Impact Analysis*, Ganddini Group, August 26, 2021, revised December 15, 2022.

- Page 53

  In response to Comment E-4, the following text updates have been made to include language related to SCAQMD permitting process:

  "Potential sources that may emit odors during the on-going operations of the Proposed Project would include odor emissions from diesel truck emissions, ~~and~~ trash storage areas, and a proposed diesel fire pump. Due to the distance of the nearest receptors from the Project Site and through compliance with the SCAQMD's Rule 402 no significant impact related to odors would occur during the on-going operations of the Proposed Project. Furthermore, the Applicant shall be required to obtain a permit for operation of the diesel fire pump prior to commencement of operations at the Project Site. Therefore, potential impacts associated with other emissions, such as those leading to odors adversely affecting a substantial number of people, would be less than significant, and no mitigation would be required."

No further revisions to the Draft IS/MND were required based upon: (1) additional or revised information required to prepare a response to a specific comment; (2) applicable updated information that was not available at the time of IS/MND publication; and/or (3) typographical errors.

4. Attachment A – Letter C - Blum Collins & Ho, LLP on behalf of Golden State Environmental Justice Alliance

Golden State Environmental Justice Alliance
Green Jobs & Clean Communities
P.O. Box 79222
Corona, CA 92877

December 14, 2022

Kenneth Phung
Director of Development Services
City of Perris
Kphung@cityofperris.org

Chantal Power
Planner
City of Perris
cpower@interwestgrp.com

Re: Redlands West Industrial, SCH NO. 2022110113, and Redlands East Industrial, SCH NO. 2022100322

Dear Mr. Phung and Ms. Power:

On behalf of the Golden State Environmental Justice Alliance ("GSEJA"), I am writing to you regarding the Redlands West Industrial, SCH NO. 2022110113, and Redlands East Industrial, SCH NO. 2022100322 (collectively, the "Projects").

GSEJA is withdrawing its comment letters and opposition to the Projects. The Projects' developer has addressed GSEJA's concerns about environmental mitigation.

Sincerely,

Joe Bourgeois
Executive Director

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

December 2, 2022

Kenneth Phung
City of Perris
Planning Division
135 North "D" Street
Perris, California 92570
kphung@cityofperris.org

VIA EMAIL

SUBJECT: COMMENTS ON REDLANDS WEST INDUSTRIAL PROJECT - DPR 20-00020 MND (SCH NO. 2022110113)

Dear Mr. Phung:

Thank you for the opportunity to comment on the Mitigated Negative Declaration (MND) for the proposed Redlands West Industrial Project. Please accept and consider these comments on behalf of Golden State Environmental Justice Alliance. 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.

1.0 Summary

The project proposes the construction and operation of one 334,040 square-foot (sf) non-refrigerated industrial building comprised of 8,000 sf of office space and 326,040 sf of warehouse space on a 20.14 gross acre sites. The building includes two grade level doors, 68 truck/trailer dock doors, 184 truck/trailer parking spaces, and 109 passenger car parking spaces.

The Proposed Project includes the vacation of Russell Way and merging of eight parcels via a tentative parcel map for a total developed site area of 19.12 acres and another approximately 1.02 acres for street improvements and dedication along Redlands Avenue. A Specific Plan Amendment to the Perris Valley Commerce Center Specific Plan (PVCC SP) is required to remove Russell Way from the Circulation Plan of the PVCCSP.

3.0 Project Description and Project Piecemealing

The MND states that "The PVCCSP EIR is a program EIR and project specific evaluations in later-tier environmental documents for individual development projects within the Specific Plan area were anticipated," and "The environmental analysis for the Proposed Project presented in this Initial Study is based on, or "tiered" from, the analysis presented in the PVCCSP EIR, when applicable, and the PVCCSP EIR is incorporated by reference."

CEQA Guidelines Section 15152 (f) states that "a later EIR shall be required when the initial study or other analysis finds that the later project may cause significant effects on the environment that were not adequately addressed in the prior EIR." The environmental analysis within the MND severely misrepresents the project and under-represents the project's significant impacts. This on its face warrants the production of an EIR for the proposed project in compliance with CEQA Guidelines Section 15152 (f). The production of an EIR is also necessary as significant new information has been produced since the 2009 PVCC SP EIR, including the VMT analysis requirements enacted in 2020 by SB 743. The required Specific Plan Amendment also presents new information that was not analyzed in the 2009 PVCC SP EIR.

Additionally, the MND does not accurately or adequately describe the project, meaning "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment" (CEQA § 15378). The proposed project is a piecemealed portion of a larger overall project in the immediate vicinity, including at least one other known project referred to as Redlands East Industrial Project (254,511 sf industrial building). Notably, Figure 14: Redlands Avenue Striping Plan and Geometrics within the MND depicts the striping and vehicle access for both the Redlands West and Redlands East projects. The MND misleads the public and decision makers by circumventing adequate and accurate environmental analysis for the whole of the action - construction and operation of all Lake Creek Industrial Buildings as a whole. A project EIR must be prepared that accurately represents the whole of the action without piecemealing the project into separate, smaller development projects to present unduly low environmental impacts.

CEQA Section 15161 describes project EIRs as examining "the environmental impacts of a specific development project. This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project including planning, construction, and operation." The specific development project is the construction and operation of both Redlands East and Redlands West Industrial Projects. Additionally, CEQA Section 15146 requires that the degree of specificity in an EIR "will correspond to the degree of specificity involved in the underlying activity which is described in the EIR. (a) An EIR on a construction project will necessarily be more detailed in the specific

effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy." Because there are two proposed buildings as part of a single construction project, the project EIR must be more detailed in the specific effects of the project.

5.3 Air Quality, 5.6 Energy, and 5.8 Greenhouse Gas Emissions

Attached is a comprehensive air quality analysis by SWAPE.

The MND does not include for analysis relevant environmental justice issues in reviewing potential impacts, including cumulative impacts from the proposed project. This is especially significant as the surrounding community is highly burdened by pollution. According to CalEnviroScreen 4.0[1], CalEPA's screening tool that ranks each census tract in the state for pollution and socioeconomic vulnerability, the proposed project's census tract (6065042618) experiences high rates of pollution burden. The surrounding community, including residences immediately adjacent to the west, and Triple Crown Elementary School and residences to the south, bears the impact of multiple sources of pollution. For example, the project census tract ranks in the 97th percentile for ozone burden and the 53rd percentile for PM 2.5 burden; both 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[2].

Further, the census tract is a diverse community including 85% Hispanic and 6% African-American residents, which are especially vulnerable to the impacts of pollution. The community has a high rate of low educational attainment, meaning 92% 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 90% 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 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 91st percentile for incidence of cardiovascular disease and 66th percentile for incidence of asthma. The

[1] CalEnviroScreen 4.0 https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40
[2] OEHHA Ozone https://oehha.ca.gov/calenviroscreen/indicator/air-quality-ozone
[3] OEHHA Poverty https://oehha.ca.gov/calenviroscreen/indicator/poverty
[4] Ibid.
[5] Ibid.

community also has a high rate of linguistic isolation, meaning 61% of the census tract speaks little to no English and faces further inequities as a result.

Additionally, the census tracts surrounding the project site (6065042620 and 6065042706) are identified as SB 535 Disadvantaged Communities[6], which is not discussed or presented for analysis in the MND. This indicates that cumulative impacts of development and environmental impacts in the City are disproportionately impacting these communities. This is notable as the project site is identified as a Disadvantaged Community in Figure 1 of the Environmental Justice Element of the General Plan. An EIR must be prepared to include this information for analysis, including cumulative impacts and irreversible environmental effects.

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[7]. 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.

5.9 Hazards and Hazardous Materials

The proposed Project site is within March Air Reserve Base (MARB)/Inland Port Airport Compatibility Zone B2. The MND concludes that the project "is not required to go through Airport Land Use Commission (ALUC) review and consistency determination because the City created an Airport Overlay Zone component to the City's land use planning to accommodate development within the City consistent with the land use designations of the MARB/IPA LUCP. However, Implementation Measures of the General Plan require MARB review and comment prior to making any land use decisions:

1. Land Use Element Implementation Measure V.C.I. Circulate all development plans within the Clear Zone and Accident Potential Zones of the March Air Reserve Base/Inland Port Plan to Department of the Air Force, MARCH Air Reserve Base to provide recommendations and

[6] OEHHA SB 535 Census Tracts https://oehha.ca.gov/calenviroscreen/sb535
[7] 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

guidance on land use compatibility in accordance with the policies of the most recent Air Force Instruction (AFI) 32-7063.

2. 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.

The MND is misleading to the public and decision makers by stating that any airport compatibility review beyond that of the City is not required. Delaying MARB review until after the CEQA process is implementation of the project prior to CEQA review and deferred mitigation in violation of CEQA. An EIR must be prepared that includes a review and comment letter regarding the proposed development plans from MARB. This is especially vital as the project requires a legislative action (Specific Plan Amendment) to proceed.

An EIR must be prepared that includes the review and comment letter regarding the proposed development plans from the MARB ALUCP. Also, delaying the RCALUC review until after the MND has been published for public comment is implementation of the project prior to CEQA review and deferred mitigation in violation of CEQA. The MND cannot conclude that the project has less than significant impacts until and unless it includes the RCALUC review and comment.

5.11 Land Use and Planning

The MND must provide a quantified analysis of the project's growth within the PVCCSP and General Plan to determine if it exceeds the buildout scenario for its Planning Area within PVCC SP and the PVCC SP 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."

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:

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

3. 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.

4. Policy HC 6.1. Support regional efforts to improve air quality through energy efficient technology, use of alternative fuels, and land use and transportation planning.

5. Land Use Element Implementation Measure V.C.I. Circulate all development plans within the Clear Zone and Accident Potential Zones of the March Air Reserve Base/Inland Port Plan to Department of the Air Force, MARCH Air Reserve Base to provide recommendations and guidance on land use compatibility in accordance with the policies of the most recent Air Force Instruction (AFI) 32-7063.

6. 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.

An EIR must be prepared to include an analysis of the project's potential inconsistency with these goals and policies.

The MND also does not discuss the potentially significant cumulative impacts of the proposed PVCCSP Specific Plan Amendment to remove Russell Way from the PVCCSP Circulation Plan. This is especially vital given the 12 amendments that have been approved in the PVCCSP, including 2 amendments to amend the Circulation Plan that differs from the circulation originally planned for and analyzed in the PVCCSP and its EIR:

1. Amendment No. 3 (approved February 9, 2016) to rezone 68.99 acres from commercial and business professional to light industrial and to update all graphics to reflect the street vacation of Nance and Markham Streets between Redlands Avenue and the Perris Valley Storm Channel. This amendment also reflects the street vacation and general plan amendment (GPA 12-02-0001) to the circulation element for the removal of Harley Knox Blvd. from Redland Avenue to Perris Valley Storm Channel.

2. Amendment No. 12 (approved: January 11, 2022) to modify Circulation Plan Map pg.3.0-1, Truck Route Plan map pg. 3.0-7, and last sentence of pg 3.0-6 to update the PVCC SP truck routes.

An EIR must be prepared to address and analyze these potentially significant impacts and in a cumulative setting.

Additionally, the MND does not provide any consistency analysis with SCAG's 2020-2045 Connect SoCal RTP/SCS. Due to errors in modeling and modeling without supporting evidence, as noted throughout this comment letter and attachments, the proposed project has significant 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. For example, the MND concludes that the project will not have significant impacts to VMT even though Table 4.2 of the Air Quality Appendix CalEEMod output sheets concludes that the project will generate 3,254,747 VMT annually (8,917 VMT per day). An EIR must be prepared to include revised, accurate modeling and a consistency analysis with all goals of the RTP/SCS.

5.14 Population and Housing

The MND utilizes uncertain language and does not provide any meaningful analysis or supporting evidence to substantiate the conclusion that there will be no significant impacts to population and housing. There is no calculation of employees generated by the proposed project during construction or operations. For example, the MND states that the project "*may* create jobs both during construction and operation and therefore, may indirectly contribute to population growth within the City. However, it is *anticipated* that the *majority* of new jobs would be filled by workers who already reside in the City and that the Proposed Project would not attract a significant number of new residents to the City. The MND does not provide any discussion of the City's unemployed population in terms of qualification for and/or interest in work in the industrial sector. The MND does not provide any demographic and geographic information on the location of qualified workers to fill these positions. A construction worker employment analysis must also be included to adequately and accurately analyze all potentially significant environmental impacts.

The MND does not provide any analysis of projects approved, proposed, or "in the pipeline" of the PVCCSP to demonstrate that the combined workforce of all projects does not exceed the growth estimates analyzed by the PVCCSP EIR. This is especially vital given the 12 amendments that have been approved in the PVCCSP, including seven amendments to increase the amount of light industrial uses than originally planned for in the PVCCSP and its EIR:

1. Amendment No. 3 (approved February 9, 2016) to rezone 68.99 acres from commercial and business professional to light industrial.

2. Amendment No. 4 (approved February 9, 2016) to rezone 16 acres from general industrial to light industrial.

3. Amendment No. 6 (approved February 14, 2017) to rezone 23.66 acres from commercial to light industrial.

4. Amendment No. 7 (approved June 13, 2017) to rezone 7.48 acres from commercial to light industrial.

5. Amendment No. 8 (approved April 10, 2018) to rezone 16.22 acres from business professional office to light industrial.

6. Amendment No. 9 (approved August 28, 2018) to rezone 35 acres from business professional office to light industrial.

7. Amendment No. 11 (approved October 26, 2021) to rezone 9.54 acres from business professional office to light industrial.

Overall, the PVCCSP has been amended seven times in the past six years to increase the amount of light industrial uses. This has increased the amount of light industrial acreage, uses, and employees within the PVCCSP by a cumulative 176.9 acres. This has increased the light industrial area within the 3,500 acre PVCCSP planning area by approximately 5%. Table 2.0-1, Land Use Comparison within the PVCCSP[8] states that the original 2012 PVCCSP document planned for 1,866 acres of light industrial and it has increased to 2,040 acres through approval of the PVCCSP amendments. An EIR must be prepared with analysis of projects approved, proposed, or "in the pipeline" of the PVCCSP to demonstrate that the combined workforce of all projects does not exceed the growth estimates analyzed by the PVCCSP EIR.

The MND has not provided any calculation of employees generated by the proposed project during project construction/operation or evidence that the City's workforce population is qualified for or interested in work in the industrial sector. SCAG's Employment Density Study[9] 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:

Warehouse: 334,040 sf / 581 sf = 575 employees
Office: 8,000 sf / 481 sf = 17 employees

Total: 592 employees

Utilizing SCAG's Employment Density Study ratios, the proposed project will generate 592 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 also provide

[8] Perris Valley Commerce Center Specific Plan
https://www.cityofperris.org/home/showpublisheddocument/2647/637799977032200000
[9] SCAG Employment Density Study
http://www.mwcog.org/file.aspx?A=QTTlTR24POOOUIw5mPNzK8F4d8djdJe4LF9Exj6lXOU%3D

demographic and geographic information on the location of qualified workers to fill these positions in order to provide an accurate environmental analysis.

SCAG's Connect SoCal Demographics and Growth Forecast[10] notes that the City will add 10,300 jobs between 2016 - 2045. Utilizing the SCAG Employment Density Study calculation of 287 employees, the project represents 2.7% of the City's employment growth from 2016 - 2045. A single project accounting for this amount of the projected employment and/or population 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 and/or population growth forecast for the City. For example, other recent industrial projects such as 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), and Ramona-Brennan Warehouse (287 employees) combined with the proposed project will cumulatively generate 6,119 employees, which is 59.4% of the City's employment growth forecast over 29 years. 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, the City's General Plan, and/or the PVCC SP EIR.

5.17 Transportation

The VMT analysis concludes the project will generate less than significant VMT impacts because it is located in a Low VMT TAZ. The VMT analysis does not adequately or accurately represent the VMT impacts of the proposed project and an EIR must be prepared to reflect this. The operational nature of industrial/warehouse uses involves high rates of truck/trailer/delivery van VMT due to traveling from large regional distribution centers to smaller industrial parks and then to their final delivery destinations. Table 4.2 Trip Summary of the Air Quality Appendix CalEEMod output sheets indicates that the project will generate approximately 3,584,027 annual VMT (3,254,747 / 365 days = 8,917 daily total VMT). This is exponentially higher than the VMTs reported in Appendix I. Notably, the VMT Scoping Form that provides the VMT analysis states that the project TAZ VMT is 9.95 VMT per employee, which is lower than the Citywide employment-based VMT of 11.62 VMT per employee. The project's 8,917 daily total VMT

[10] 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

divided by its 605 average daily vehicle trips is approximately 14.74 VMT per trip. This is 48% greater than the TAZ VMT per employee and 26% greater than the Citywide employment-based VMT per employee. An EIR must be prepared that includes this information for analysis and a finding of significance due to exceeding the local VMT thresholds and the significant quantity of VMT generated by project operations.

Additionally, it must also be noted that the VMT Scoping Form does not include any of the WRCOG VMT Screening input parameters and output maps. The MND states that "based on the WRCOG web app screening map, the Traffic Impact Analysis (Appendix I) identified that the Project Site is in an area of Perris mapped with low VMT." However, those maps and the input parameters are not included for public review, which does not comply with CEQA's requirements for adequate informational documents and meaningful disclosure (CEQA § 15121 and 21003(b)). Incorporation by reference (CEQA § 15150 (f)) is not appropriate as the WRCOG web app screening map and associated input parameters contribute directly to analysis of the problem at hand. An EIR must be prepared to include these items for public review in order to provide an adequate and accurate environmental analysis.

Appendix I sources the Governor's Office of Planning and Research (OPR) 2018 CEQA Guidelines Update and Technical Advisory[11] as contributing to the methodology for VMT analysis. The VMT analysis does not include any truck/trailer trips for analysis. The MND does not provide a statutory source of exemption for medium/heavy trucks. The OPR's 2018 Technical Advisory which states that "here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks." However, the purpose of the OPR Technical Advisory document is purely advisory, stating in its introduction:

"The purpose of this document is to provide advice and recommendations, which agencies and other entities may use at their discretion. This document does not alter lead agency discretion in preparing environmental documents subject to CEQA. This document should not be construed as legal advice."

The OPR document is not a legal interpretation, court decision, or amendment to the CEQA statute that clarifies the definition of automobile. The term "automobile" is not defined in the CEQA statute and application of the OPR interpretation is speculative and does not provide an analysis of the "worst-case scenario" for environmental impacts. Widespread public understanding and perception indicates that trucks, including medium/heavy-duty truck/trailer trips associated with the industrial nature of warehouse operations, are automobiles. An EIR must be prepared to

[11] Governor's Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA https://opr.ca.gov/ceqa/docs/20190122-743_Technical_Advisory.pdf

include all truck/trailer activity for quantified VMT analysis. The operational nature of industrial/warehouse uses involves high rates of truck/trailer 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, they will conduct their jobs by driving delivery vans across the region as part of the daily operations as a warehouse facility, 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. An EIR must be prepared to reflect a quantified VMT analysis that includes all truck/trailer and delivery van activity.

The MND also does not discuss the potentially significant cumulative impacts of the proposed PVCCSP Specific Plan Amendment to remove Russell Way from the PVCCSP Circulation Plan. This is especially vital given the 12 amendments that have been approved in the PVCCSP, including 2 amendments to amend the Circulation Plan that differs from the circulation originally planned for and analyzed in the PVCCSP and its EIR:

1. Amendment No. 3 (approved February 9, 2016) to rezone 68.99 acres from commercial and business professional to light industrial and to update all graphics to reflect the street vacation of Nance and Markham Streets between Redlands Avenue and the Perris Valley Storm Channel. This amendment also reflects the street vacation and general plan amendment (GPA 12-02-0001) to the circulation element for the removal of Harley Knox Blvd. from Redland Avenue to Perris Valley Storm Channel.

2. Amendment No. 12 (approved: January 11, 2022) to modify Circulation Plan Map pg.3.0-1, Truck Route Plan map pg. 3.0-7, and last sentence of pg 3.0-6 to update the PVCC SP truck routes.

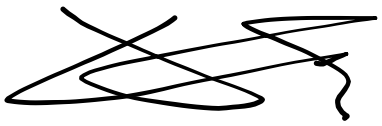
An EIR must be prepared to address and analyze these potentially significant impacts and in a cumulative setting.

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. The MND has not provided any exhibits depicting the available truck/trailer turning radius at the intersection of the project driveways to determine if there is enough space available to accommodate heavy truck maneuvering. There are also no exhibits depicting emergency vehicle access. Deferring this environmental analysis required by CEQA to the construction permitting phase is improper mitigation and does not comply with CEQA's requirement for meaningful disclosure and adequate informational documents. An EIR must be prepared for the proposed project with this analysis in order to provide an adequate and accurate environmental analysis.

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.

Sincerely,



Gary Ho
Blum Collins & Ho, LLP

Attachment: SWAPE Analysis

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

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December 2, 2022

Gary Ho
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Subject: Comments on the Redlands Avenue West Industrial Project (SCH No. 2022110113)

Dear Mr. Ho,

We have reviewed the September 2022 Initial Study / Mitigated Negative Declaration ("IS/MND") for the Redlands Avenue West Industrial Project ("Project") located in the City of Perris ("City"). The Project proposes to construct 326,040-square-feet ("SF") of industrial space, 8,000-SF of office space, and 293 parking spaces on the 20.4-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.

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. 77).[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

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

values are inputted into the model, the Project's construction and operational emissions are calculated, 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 Redlands Avenue West Industrial Project Air Quality, Global Climate Change, HRA and Energy Impact Analysis ("AQ, GHG, HRA, & Energy Analysis") as Appendix A to the IS/MND, we found that a model input was not consistent with information disclosed in the IS/MND. As a result, the Project's construction-related 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 Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the "19370 Redlands Ave West Industrial Project" model includes manual changes to the default building construction and architectural coating construction phase lengths (see excerpt below) (Appendix A, pp. 120, 147, 411).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	370.00	150.00

As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix A, pp. 125, 152, 416).

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Grading	Grading	5/1/2022	6/17/2022	5	35
2	Building Construction	Building Construction	6/18/2022	1/15/2023	5	150
3	Paving	Paving	12/5/2022	12/30/2022	5	20
4	Architectural Coating	Architectural Coating	12/22/2022	2/1/2023	5	30

As demonstrated above, the architectural coating phase is increased by 50%, from the default value of 20 to 30 days, and the building construction phase is decreased by 59%, from the default value of 370 to 150 days. 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:

> "Construction anticipated to begin early May 2022 & be completed by the beginning of February 2023. Site vacant, no demo/site prep" (Appendix A, pp. 119, 146, 410).

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

[2] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.

> "Construction is anticipated to occur in one phase, beginning in Fall 2022, lasting approximately 12 months, with operations anticipated to begin in Fall 2023 […]
>
> Building Construction and Architectural Coating – Construction of the one 334,040 SF non-refrigerated warehouse is expected to occur over nine months" (p. 13).

However, these changes remain unsupported. While the IS/MND indicates the total construction duration, as well as the combined construction duration associated with building construction and architectural coating, the IS/MND fails to mention or justify the building construction and architectural coating phase lengths independent of one another. 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." [3]

Here, as the IS/MND only justifies the combined construction duration of 9 months for building construction and architectural coating, as well as the total construction duration of 12 months, the IS/MND fails to provide substantial evidence to support the revised *individual* building construction and architectural coating phase lengths. As such, we cannot verify the changes.

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).[4]

> ***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.

Thus, by disproportionately altering and extending some of the individual construction phase lengths without proper justification, the model assumes there are a greater number of days to complete the construction activities required by the prolonged phases. As a result, there will be less construction

[3] "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.
[4] "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.

activities required per day and, consequently, less pollutants emitted per day. Therefore, the model may underestimate the peak daily emissions associated with some phases of construction and should not be relied upon to determine Project significance. As such, the model should have proportionately altered the building construction and architectural coating phase lengths to match their combined duration of 9 months, as well as the total construction duration of 12 months.[5]

Updated Analysis Indicates a Potentially Significant Air Quality Impact

In an effort to more accurately estimate the Project's construction-related and operational emissions, we prepared an updated CalEEMod model, using the Project-specific information provided by the IS/MND. In our updated model, we proportionally altered the building construction and architectural coating construction phase lengths to match the proposed duration of 9 months, as well as the total construction duration of 12 months.[6]

Our updated analysis estimates that the Project's construction-related ROG 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 (p. 47, Table 3) (see table below).[7]

SWAPE Criteria Air Pollutant Emissions	
Construction	**ROG** (lbs/day)
IS/MND	64.4
SWAPE	170.6
% Increase	165%
SCAQMD Threshold	**75**
Exceeds?	***Yes***

As demonstrated in the table above, the Project's construction-related ROG emissions, as estimated by SWAPE, increase by approximately 165% and exceed the applicable SCAQMD significance threshold. Thus, 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. As a result, an EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the environment.

Disproportionate Health Risk Impacts of Warehouses on Surrounding Communities

Upon review of the IS/MND, 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 the SCAQMD:

[5] See Attachment A for construction schedule calculations.
[6] See Attachment B for updated air modeling.
[7] "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."[8]

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.[9] 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."[10] 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."[11]

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. The Inland Empire alone is adding 10 to 25 million SF of new industrial space each year.[12] Riverside, the setting of the proposed Project, has long borne a disproportionately high pollution burden compared to the rest of California. When using CalEnviroScreen 4.0, CalEPA's screening tool that ranks each census tract in the State for pollution and

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[8] "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.

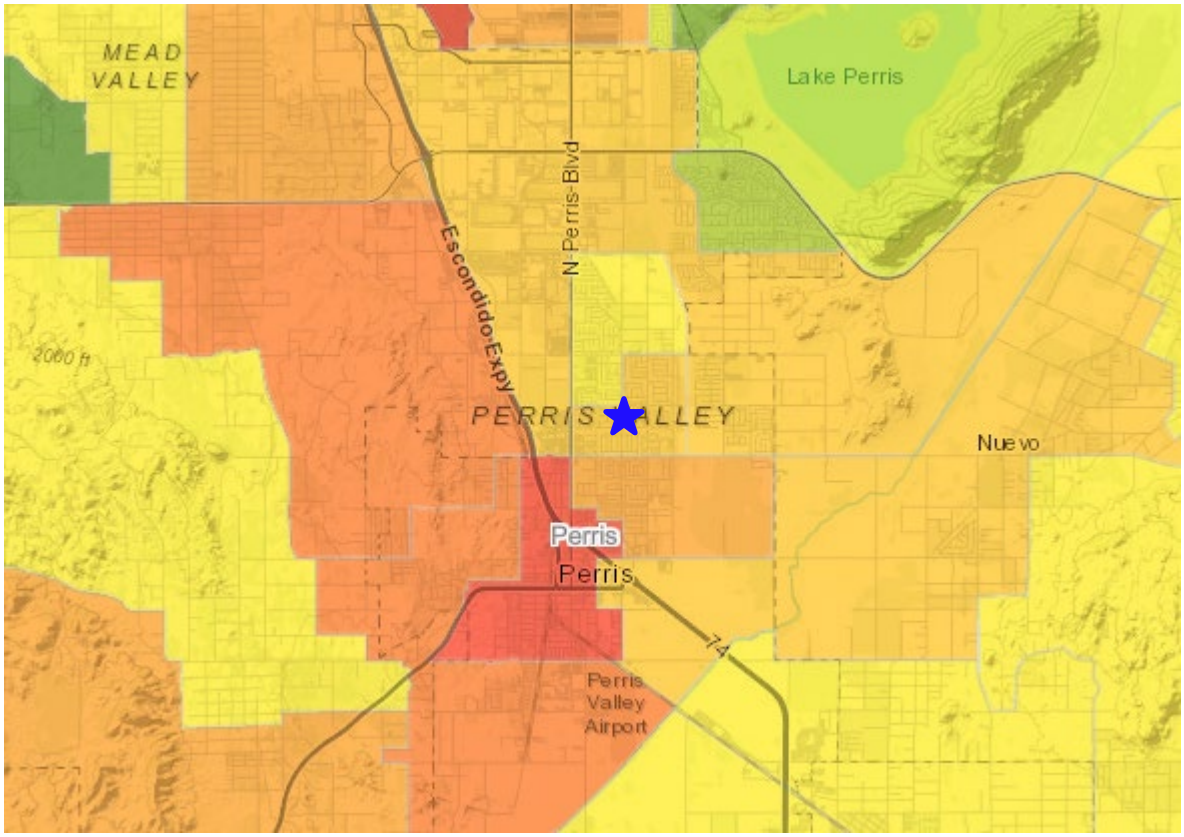
[9] "Southern California warehouse boom a huge source of pollution. Regulators are fighting back." Los Angeles Times, May 2021, *available at:* https://www.latimes.com/california/story/2021-05-05/air-quality-officials-target-warehouses-bid-to-curb-health-damaging-truck-pollution.

[10] "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.

[11] "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.

[12] "2020 North America Industrial Big Box Review & Outlook." CBRE, 2020, *available at:* https://www.cbre.com/-/media/project/cbre/shared-site/insights/local-responses/industrial-big-box-report-inland-empire/local-response-2020-ibb-inland-empire-overview.pdf, p. 2.

socioeconomic vulnerability, we found that the Project's census tract is in the 62nd percentile of most polluted census tracts in the State (see excerpt below).[13]



Therefore, development of the proposed warehouse would disproportionately contribute to and exacerbate the health conditions of the residents in Riverside.

In April 2022, the American Lung Association ranked San Bernadino and Riverside Counties as the worst for ozone pollution in the nation.[14] Riverside County specifically has seen the second highest recorded Air Quality Index ("AQI") values for ground-level ozone in the state.[15] The U.S. Environmental Protection Agency ("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. The U.S. EPA states:

[13] "CalEnviroScreen 4.0." California Office of Environmental Health Hazard Assessment (OEHHA), October 2021, *available at:* https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40.
[14] "State of the Air 2022." American Lung Association, 2022, *available at:* https://www.lung.org/getmedia/74b3d3d3-88d1-4335-95d8-c4e47d0282c1/sota-2022.pdf, p. 19.
[15] "High Ozone Days." American Lung Association, 2022, *available at:* https://www.lung.org/research/sota/city-rankings/states/california.

"Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure. Children are also more likely than adults to have asthma."[16]

Furthermore, regarding the increased sensitivity of early-life exposures to inhaled pollutants, the California Air Resources Board ("CARB") states:

"Children are often at greater risk from inhaled pollutants, due to the following reasons:

- Children have unique activity patterns and behavior. For example, they crawl and play on the ground, amidst dirt and dust that may carry a wide variety of toxicants. They often put their hands, toys, and other items into their mouths, ingesting harmful substances. Compared to adults, children typically spend more time outdoors and are more physically active. Time outdoors coupled with faster breathing during exercise increases children's relative exposure to air pollution.

- Children are physiologically unique. Relative to body size, children eat, breathe, and drink more than adults, and their natural biological defenses are less developed. The protective barrier surrounding the brain is not fully developed, and children's nasal passages aren't as effective at filtering out pollutants. Developing lungs, immune, and metabolic systems are also at risk.

- Children are particularly susceptible during development. Environmental exposures during fetal development, the first few years of life, and puberty have the greatest potential to influence later growth and development."[17]

A Stanford-led study also reveals that children exposed to high levels of air pollution are more susceptible to respiratory and cardiovascular diseases in adulthood.[18] Thus, given children's higher propensity to succumb to the negative health impacts of air pollutants, and as warehouses release more smog-forming pollution than any other sector, it is necessary to evaluate the specific health risk that warehouses pose to children in the nearby community.

According to the above-mentioned study by the People's Collective for Environmental Justice and University of Redlands, there are 640 schools in the South Coast Air Basin that are located within half a mile of a large warehouse, most of them in socio-economically disadvantaged areas.[19] Regarding the proposed Project itself, the IS/MND states:

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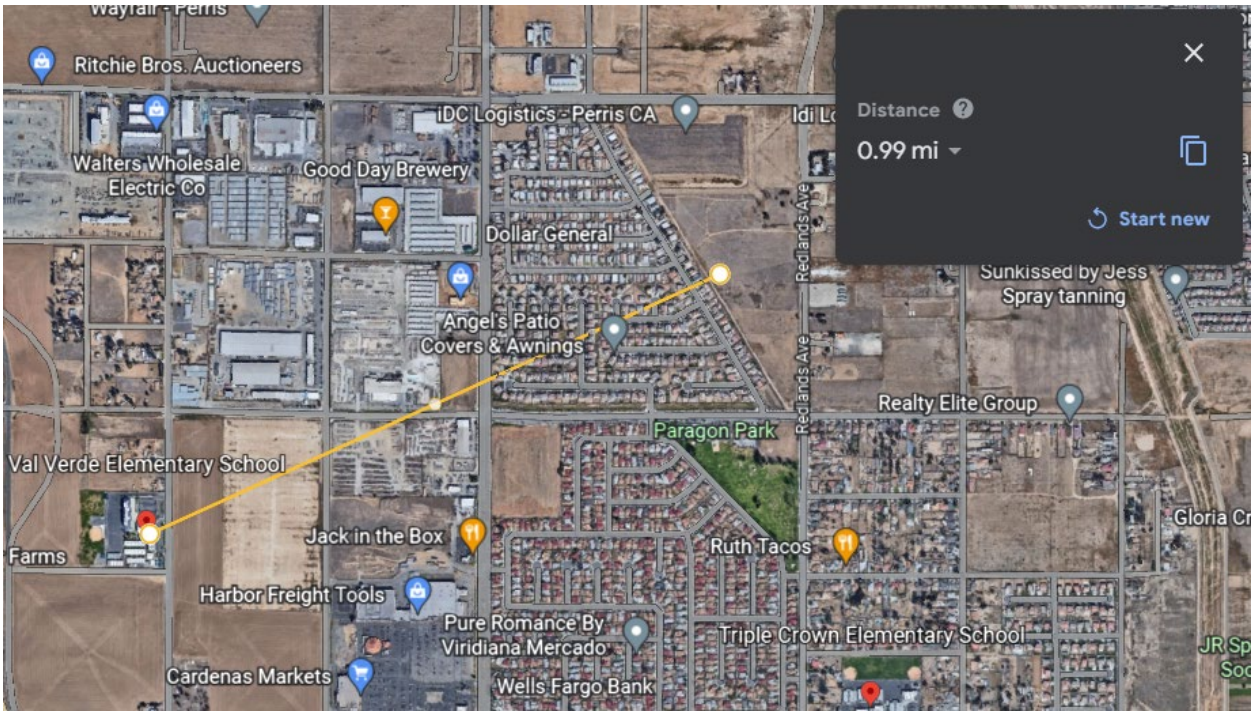
[16] "Health Effects of Ozone Pollution." U.S. EPA, May 2021, *available at:* https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution.
[17] "Children and Air Pollution." California Air Resources Board (CARB), *available at:* https://ww2.arb.ca.gov/resources/documents/children-and-air-pollution.
[18] "Air pollution puts children at higher risk of disease in adulthood, according to Stanford researchers and others." Stanford, February 2021, *available at:* https://news.stanford.edu/2021/02/22/air-pollution-impacts-childrens-health/.
[19] "Warehouses, Pollution, and Social Disparities: An analytical view of the logistics industry's impacts

> "The closest school to the Project Site is Triple Crown Elementary School, which is approximately 3,300 feet south of the Project Site. Since there are no schools within one-quarter mile of the Project Site, no impacts would occur, and no mitigation would be required" (p. 99).

However, even though there are no schools within a quarter mile, the Triple Crown Elementary School is still located approximately 3,300 feet, or 0.63 miles, from the Project. Furthermore, review of Google Earth also demonstrates that the Project site is approximately 0.99 miles from Val Verde Elementary School (see excerpt below).



This poses a significant threat because, as outlined above, children are a vulnerable population that are more susceptible to the damaging side effects of air pollution. As such, the Project would have detrimental short-term and long-term health impacts on local residents and children if approved.

An EIR should be prepared to evaluate the disproportionate impacts of the proposed warehouse on the community adjacent to the Project, including an analysis of the impact on children and people of color who live and attend school in the surrounding area. Finally, 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 in the immediate area in conjunction with the poor ambient air quality in the Project's census tract.

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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.

Diesel Particulate Matter Emissions Inadequately Evaluated

The IS/MND conducts a health risk assessment ("HRA") evaluating the impacts from exposure to diesel particulate matter ("DPM") emissions from diesel trucks during Project operation. Specifically, the IS/MND estimates that the maximum incremental cancer risk posed to nearby, existing sensitive receptors as a result of Project operation would be 1.79 in one million, which would not exceed the SCAQMD significance threshold of 10 in one million. Specifically, the IS/MND states:

> "Based on the findings of the Health Risk Assessment with ultra-conservative assumptions, the 30.25-year, cumulative carcinogenic health risk (3rd trimester [-0.25 to 0 years] + infant [0-2 years] + child [2-16 years] + adult [16-30 years]) to an individual born during the opening year of the Proposed Project, and living near the Project Site for the entire 30-year duration, is a maximum of 1.79 in a million at receptor Location 2 (Appendix A, Table 19). As the residential cancer risk does not exceed 10 in a million, the potential impacts associated with the cancer risk from diesel emissions from the on-going operations of the Proposed Project would be less than significant, and no mitigation would be required" (p. 52).

However, the IS/MND fails to conduct a construction-related HRA. Instead, regarding the health risk impacts associated with Project construction, the IS/MND states:

> "Given the limited number of heavy-duty construction equipment and construction schedule, the Proposed Project would not result in a long-term substantial source of toxic air containment emissions and corresponding individual cancer risk. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the Proposed Project, and no mitigation would be required" (p. 51).

As demonstrated above, the IS/MND concludes that the Project would result in a less-than-significant construction-related health risk impact because the limited number of heavy-duty equipment and short-term construction schedule would not result in substantial DPM emissions. However, the IS/MND's evaluation of the Project's potential health risk impacts, as well as the subsequent less-than-significant impact conclusion, is incorrect for three reasons.

First, by failing to prepare a quantified construction HRA, the Project is inconsistent with CEQA's requirement to make "a reasonable effort to substantively connect a project's air quality impacts to likely health consequences."[20] This poses a problem, as construction of the Project would produce DPM emissions through the exhaust stacks of construction equipment over a duration of approximately 12 months (p. 23). However, the IS/MND fails to evaluate the TAC emissions associated with Project construction or indicate the concentrations at which such pollutants would trigger adverse health effects. Thus, 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

[20] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at:* https://ceqaportal.org/decisions/1907/Sierra%20Club%20v.%20County%20of%20Fresno.pdf.

CEQA's requirement to correlate Project-generated emissions with potential adverse impacts on human health.

Second, 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.[21] OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015, as referenced by the IS/MND (p. 51). Specifically, OEHHA recommends that all short-term projects lasting at least 2 months assess cancer risks.[22] Furthermore, according to OEHHA:

> "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)."[23]

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 12-month construction period. These recommendations reflect the most recent state health risk policies, and as such, an EIR should be prepared to include an analysis of health risk impacts posed to nearby sensitive receptors from Project-generated DPM emissions.

Third, while the IS/MND includes a mobile-source operational 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."[24] However, the IS/MND'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 thus, an updated analysis should quantify and sum the entirety of the Project's construction and operational cancer risks to compare to the SCAQMD specific numeric threshold of 10 in one million, as referenced by the IS/MND (p. 50).

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[21] "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.
[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, p. 8-18.
[23] "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.
[24] "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

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.[25] 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"). [26, 27] 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 is required 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 the third trimester stage of life.[28] The IS/MND's CalEEMod model indicates that construction activities will generate approximately 182 pounds of DPM over the 276-day construction period.[29] 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:

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{182.0\ lbs}{276\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.00346\ g/s}$$

Using this equation, we estimated a construction emission rate of 0.00346 grams per second ("g/s"). Construction was simulated as a 20.14-acre rectangular area source in AERSCREEN, with approximate dimensions of 404- by 202-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. 2020 Census data.[30]

The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project Site. U.S. EPA guidance suggests that in screening procedures, the annualized average

[25] "AERSCREEN Released as the EPA Recommended Screening Model," U.S. EPA, April 2011, *available at:* http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf
[26] "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.
[27] "Health Risk Assessments for Proposed Land Use Projects." CAPCOA, July 2009, *available at:* http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.
[28] "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.
[29] See Attachment B for health risk calculations.
[30] "Perris." U.S. Census Bureau, 2020, *available at:* https://datacommons.org/place/geoId/0656700.

concentration of an air pollutant to be estimated by multiplying the single-hour concentration by 10%.[31] According to the IS/MND the nearest sensitive receptor is located immediately adjacent from the Project site (p. 48). However, review of the AERSCREEN output files demonstrates that the MEIR is located approximately 200 meters from the Project site. Thus, the single-hour concentration estimated by AERSCREEN for Project construction is approximately 2.014 µg/m^3 DPM at approximately 200 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.2014 µg/m^3 for Project construction at the MEIR.

We calculated the excess cancer risk to the MEIR using applicable HRA methodologies prescribed by OEHHA, as recommended by SCAQMD.[32] Specifically, guidance from OEHHA and 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 ("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:

[31] "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.
[32] "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.

Exposure Assumptions for Residential Individual Cancer Risk						
Age Group	**Breathing Rate** (L/kg-day)[33]	**Age Sensitivity Factor**[34]	**Exposure Duration** (years)	**Fraction of Time at Home**[35]	**Exposure Frequency** (days/year)[36]	**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:

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

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)
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:

[33] "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.
[34] "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.
[35] "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.
[36] "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.

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

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 276-day construction schedule, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and first 0.51 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	0.2014	2.74E-06
	Construction	*0.51*	*0.2014*	*1.67E-05*
	Operation	*1.49*	*	*
Infant (0 - 2)	Total	2		1.67E-05
Child (2 - 16)	Operation	14	*	*
Adult (16 - 30)	Operation	14	*	*
Lifetime		**30**		**1.95E-05**

As demonstrated in the table above, the excess cancer risks to the 3rd trimester of pregnancy and infant receptors at the MEIR located approximately 200 meters away, over the course of Project construction, are approximately 2.74 and 16.7 in one million, respectively. The total excess cancer risk associated with Project construction is approximately 19.5 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 1.79 in one million, we estimate an excess cancer risk of approximately 21.29 in one million over the course of a 30-year residential lifetime (p. 52).[37] As such, 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.

[37] Calculated: 19.5 in one million + 1.79 in one million = 21.29 in one million.

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 potential link between Project-generated emissions and 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."[38]

As demonstrated above, screening-level analyses warrant further evaluation in a refined modeling approach. Thus, 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.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

The IS/MND's 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 identified several mitigation measures that are applicable to the proposed Project. Feasible mitigation measures can be found in the Department of Justice Warehouse Project Best Practices document.[39] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

- Requiring off-road construction equipment to be 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.

[38] "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.
[39] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice.

- Requiring on-road heavy-duty haul trucks to be model year 2010 or newer if diesel-fueled.
- Providing electrical hook ups to the power grid, rather than use of diesel-fueled generators, for electric construction tools, such as saws, drills and compressors, and using electric tools whenever feasible.
- 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 two 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 that all facility-owned and operated fleet equipment with a gross vehicle weight rating greater than 14,000 pounds accessing the site meet or exceed 2010 model-year emissions equivalent engine standards as currently defined in California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.5, Section 2025. Facility operators shall maintain records on-site demonstrating compliance with this requirement and shall make records available for inspection by the local jurisdiction, air district, and state upon request.
- Requiring all heavy-duty vehicles entering or operated on the project site to be zero-emission beginning in 2030.
- Requiring on-site equipment, such as forklifts and yard trucks, to be electric with the necessary electrical charging 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 two 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 air district, and the building manager.
- 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.
- 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.

- Constructing electric truck charging stations proportional to the number of dock doors at the project.
- Constructing electric plugs for electric transport refrigeration units at every dock door, if the warehouse use could include refrigeration.
- Constructing electric light-duty vehicle charging stations proportional to the number of parking spaces at the project.
- Installing solar photovoltaic systems on the project site of a specified electrical generation capacity, such as equal to the building's projected energy needs.
- 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.
- Achieving certification of compliance with LEED green building 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 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. An EIR should be prepared to include all feasible mitigation measures, as well as include updated air quality and health risk analyses 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.

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

Attachment A

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Construction	370	545	0.6789	280	190
Architectural Coating	20	545	0.0367	280	10

	Total Default Construction Duration		Revised Construction Duration
Start Date	6/18/2022		6/18/2022
End Date	12/15/2023		3/25/2023
Total Days	545		280

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

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	334.45	1000sqft	7.59	334,447.00	0
Other Asphalt Surfaces	7.38	Acre	7.38	321,472.80	0
Other Non-Asphalt Surfaces	103.44	1000sqft	2.37	103,440.00	0
Parking Lot	311.00	Space	2.80	124,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (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 comment on "Unsubstantiated Changes to Individual Construction Phase Lengths."

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

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Consistent with the IS/MND's model.

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

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

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

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

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

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

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

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	370.00	190.00
tblFleetMix	HHD	0.02	0.17
tblFleetMix	LDA	0.53	0.42
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT2	0.17	0.14
tblFleetMix	LHD1	0.03	0.04
tblFleetMix	LHD2	7.3100e-003	9.7020e-003
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MDV	0.14	0.11
tblFleetMix	MH	5.4680e-003	0.00
tblFleetMix	MHD	0.01	0.06
tblFleetMix	OBUS	6.1600e-004	0.00
tblFleetMix	SBUS	1.1000e-003	0.00
tblFleetMix	UBUS	3.1500e-004	0.00
tblLandUse	LandUseSquareFeet	334,450.00	334,447.00
tblLandUse	LotAcreage	7.68	7.59
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	172.00
tblVehicleTrips	CNW_TTP	41.00	73.00
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	CW_TTP	59.00	27.00
tblVehicleTrips	ST_TR	1.74	1.81
tblVehicleTrips	SU_TR	1.74	1.81
tblVehicleTrips	WD_TR	1.74	1.81

2.0 Emissions Summary

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3744	3.0352	3.4118	8.5900e-003	0.5145	0.1287	0.6432	0.1593	0.1210	0.2803	0.0000	774.0695	774.0695	0.0997	0.0327	786.3077
2023	0.9787	0.8604	1.1693	2.9000e-003	0.1306	0.0357	0.1663	0.0352	0.0337	0.0689	0.0000	262.4109	262.4109	0.0307	0.0112	266.5148
Maximum	**0.9787**	**3.0352**	**3.4118**	**8.5900e-003**	**0.5145**	**0.1287**	**0.6432**	**0.1593**	**0.1210**	**0.2803**	**0.0000**	**774.0695**	**774.0695**	**0.0997**	**0.0327**	**786.3077**

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					
2022	0.3744	3.0352	3.4118	8.5900e-003	0.5145	0.1287	0.6432	0.1593	0.1210	0.2803	0.0000	774.0691	774.0691	0.0997	0.0327	786.3072
2023	0.9787	0.8604	1.1693	2.9000e-003	0.1306	0.0357	0.1663	0.0352	0.0337	0.0689	0.0000	262.4108	262.4108	0.0307	0.0112	266.5147
Maximum	**0.9787**	**3.0352**	**3.4118**	**8.5900e-003**	**0.5145**	**0.1287**	**0.6432**	**0.1593**	**0.1210**	**0.2803**	**0.0000**	**774.0691**	**774.0691**	**0.0997**	**0.0327**	**786.3072**

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	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-1-2022**	**7-31-2022**	1.3252	1.3252
2	**8-1-2022**	**10-31-2022**	1.2469	1.2469
3	**11-1-2022**	**1-31-2023**	1.2086	1.2086
4	**2-1-2023**	**4-30-2023**	1.4511	1.4511
		Highest	1.4511	1.4511

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	1.4076	9.0000e-005	9.6500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0188	0.0188	5.0000e-005	0.0000	0.0200
Energy	3.6200e-003	0.0330	0.0277	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	181.2003	181.2003	0.0130	2.1400e-003	182.1632
Mobile	0.3452	2.2171	4.1873	0.0179	1.2720	0.0241	1.2961	0.3437	0.0229	0.3665	0.0000	1,701.3279	1,701.3279	0.0471	0.1678	1,752.5035
Waste						0.0000	0.0000		0.0000	0.0000	63.8163	0.0000	63.8163	3.7714	0.0000	158.1022
Water						0.0000	0.0000		0.0000	0.0000	24.5369	178.5984	203.1353	2.5353	0.0613	284.7941
Total	**1.7564**	**2.2502**	**4.2247**	**0.0181**	**1.2720**	**0.0266**	**1.2986**	**0.3437**	**0.0254**	**0.3691**	**88.3532**	**2,061.1453**	**2,149.4985**	**6.3668**	**0.2313**	**2,377.5829**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4076	9.0000e-005	9.6500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0188	0.0188	5.0000e-005	0.0000	0.0200
Energy	3.6200e-003	0.0330	0.0277	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	181.2003	181.2003	0.0130	2.1400e-003	182.1632
Mobile	0.2679	1.5156	2.8453	0.0111	0.7674	0.0147	0.7821	0.2073	0.0140	0.2213	0.0000	1,050.9989	1,050.9989	0.0327	0.1063	1,083.4869
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	24.5369	178.5984	203.1353	2.5353	0.0613	284.7941
Total	**1.6791**	**1.5487**	**2.8827**	**0.0113**	**0.7674**	**0.0172**	**0.7846**	**0.2073**	**0.0165**	**0.2238**	**24.5369**	**1,410.8163**	**1,435.3532**	**2.5810**	**0.1697**	**1,550.4641**

	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	**4.40**	**31.18**	**31.77**	**37.82**	**39.67**	**35.23**	**39.58**	**39.67**	**35.05**	**39.35**	**72.23**	**31.55**	**33.22**	**59.46**	**26.60**	**34.79**

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

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	121.7760
Total	**121.7760**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	5/1/2022	6/17/2022	5	35	
2	Building Construction	Building Construction	6/18/2022	3/10/2023	5	190	
3	Paving	Paving	3/11/2023	4/7/2023	5	20	
4	Architectural Coating	Architectural Coating	4/8/2023	4/21/2023	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 105

Acres of Paving: 12.55

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 501,671; Non-Residential Outdoor: 167,224; Striped Parking Area: 32,959 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	14	371.00	145.00	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	74.00	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

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

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1611	0.0000	0.1611	0.0639	0.0000	0.0639	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0634	0.6798	0.5082	1.0900e-003		0.0286	0.0286		0.0263	0.0263	0.0000	95.4356	95.4356	0.0309	0.0000	96.2072
Total	**0.0634**	**0.6798**	**0.5082**	**1.0900e-003**	**0.1611**	**0.0286**	**0.1897**	**0.0639**	**0.0263**	**0.0903**	**0.0000**	**95.4356**	**95.4356**	**0.0309**	**0.0000**	**96.2072**

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	1.2200e-003	9.5000e-004	0.0119	3.0000e-005	3.8500e-003	2.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0400e-003	0.0000	3.0419	3.0419	8.0000e-005	8.0000e-005	3.0690
Total	**1.2200e-003**	**9.5000e-004**	**0.0119**	**3.0000e-005**	**3.8500e-003**	**2.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0400e-003**	**0.0000**	**3.0419**	**3.0419**	**8.0000e-005**	**8.0000e-005**	**3.0690**

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

3.2 Grading - 2022

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					0.1611	0.0000	0.1611	0.0639	0.0000	0.0639	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0634	0.6798	0.5082	1.0900e-003		0.0286	0.0286		0.0263	0.0263	0.0000	95.4354	95.4354	0.0309	0.0000	96.2071
Total	**0.0634**	**0.6798**	**0.5082**	**1.0900e-003**	**0.1611**	**0.0286**	**0.1897**	**0.0639**	**0.0263**	**0.0903**	**0.0000**	**95.4354**	**95.4354**	**0.0309**	**0.0000**	**96.2071**

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	1.2200e-003	9.5000e-004	0.0119	3.0000e-005	3.8500e-003	2.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0400e-003	0.0000	3.0419	3.0419	8.0000e-005	8.0000e-005	3.0690
Total	**1.2200e-003**	**9.5000e-004**	**0.0119**	**3.0000e-005**	**3.8500e-003**	**2.0000e-005**	**3.8700e-003**	**1.0200e-003**	**2.0000e-005**	**1.0400e-003**	**0.0000**	**3.0419**	**3.0419**	**8.0000e-005**	**8.0000e-005**	**3.0690**

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

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2028	1.8332	1.8552	3.1800e-003		0.0924	0.0924		0.0874	0.0874	0.0000	272.1378	272.1378	0.0608	0.0000	273.6582
Total	**0.2028**	**1.8332**	**1.8552**	**3.1800e-003**		**0.0924**	**0.0924**		**0.0874**	**0.0874**	**0.0000**	**272.1378**	**272.1378**	**0.0608**	**0.0000**	**273.6582**

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	0.0161	0.4505	0.1518	1.8500e-003	0.0641	6.1900e-003	0.0703	0.0185	5.9300e-003	0.0244	0.0000	177.7443	177.7443	1.8700e-003	0.0264	185.6509
Worker	0.0908	0.0707	0.8847	2.4500e-003	0.2854	1.4500e-003	0.2869	0.0758	1.3300e-003	0.0771	0.0000	225.7099	225.7099	6.0200e-003	6.2500e-003	227.7224
Total	**0.1069**	**0.5212**	**1.0365**	**4.3000e-003**	**0.3496**	**7.6400e-003**	**0.3572**	**0.0943**	**7.2600e-003**	**0.1016**	**0.0000**	**403.4542**	**403.4542**	**7.8900e-003**	**0.0326**	**413.3733**

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3.3 Building Construction - 2022

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	0.2028	1.8332	1.8552	3.1800e-003		0.0924	0.0924		0.0874	0.0874	0.0000	272.1375	272.1375	0.0608	0.0000	273.6578
Total	**0.2028**	**1.8332**	**1.8552**	**3.1800e-003**		**0.0924**	**0.0924**		**0.0874**	**0.0874**	**0.0000**	**272.1375**	**272.1375**	**0.0608**	**0.0000**	**273.6578**

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	0.0161	0.4505	0.1518	1.8500e-003	0.0641	6.1900e-003	0.0703	0.0185	5.9300e-003	0.0244	0.0000	177.7443	177.7443	1.8700e-003	0.0264	185.6509
Worker	0.0908	0.0707	0.8847	2.4500e-003	0.2854	1.4500e-003	0.2869	0.0758	1.3300e-003	0.0771	0.0000	225.7099	225.7099	6.0200e-003	6.2500e-003	227.7224
Total	**0.1069**	**0.5212**	**1.0365**	**4.3000e-003**	**0.3496**	**7.6400e-003**	**0.3572**	**0.0943**	**7.2600e-003**	**0.1016**	**0.0000**	**403.4542**	**403.4542**	**7.8900e-003**	**0.0326**	**413.3733**

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3.3 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	0.0669	0.6041	0.6573	1.1300e-003		0.0287	0.0287		0.0271	0.0271	0.0000	97.2184	97.2184	0.0215	0.0000	97.7567
Total	**0.0669**	**0.6041**	**0.6573**	**1.1300e-003**		**0.0287**	**0.0287**		**0.0271**	**0.0271**	**0.0000**	**97.2184**	**97.2184**	**0.0215**	**0.0000**	**97.7567**

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	3.9300e-003	0.1243	0.0495	6.3000e-004	0.0229	1.0300e-003	0.0239	6.6100e-003	9.9000e-004	7.6000e-003	0.0000	60.9908	60.9908	6.2000e-004	9.0200e-003	63.6937
Worker	0.0301	0.0223	0.2912	8.5000e-004	0.1019	4.9000e-004	0.1024	0.0271	4.5000e-004	0.0275	0.0000	78.4973	78.4973	1.9300e-003	2.0600e-003	79.1591
Total	**0.0340**	**0.1466**	**0.3407**	**1.4800e-003**	**0.1248**	**1.5200e-003**	**0.1264**	**0.0337**	**1.4400e-003**	**0.0351**	**0.0000**	**139.4881**	**139.4881**	**2.5500e-003**	**0.0111**	**142.8528**

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3.3 Building Construction - 2023

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	0.0669	0.6041	0.6573	1.1300e-003		0.0287	0.0287		0.0271	0.0271	0.0000	97.2183	97.2183	0.0215	0.0000	97.7565
Total	**0.0669**	**0.6041**	**0.6573**	**1.1300e-003**		**0.0287**	**0.0287**		**0.0271**	**0.0271**	**0.0000**	**97.2183**	**97.2183**	**0.0215**	**0.0000**	**97.7565**

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	3.9300e-003	0.1243	0.0495	6.3000e-004	0.0229	1.0300e-003	0.0239	6.6100e-003	9.9000e-004	7.6000e-003	0.0000	60.9908	60.9908	6.2000e-004	9.0200e-003	63.6937
Worker	0.0301	0.0223	0.2912	8.5000e-004	0.1019	4.9000e-004	0.1024	0.0271	4.5000e-004	0.0275	0.0000	78.4973	78.4973	1.9300e-003	2.0600e-003	79.1591
Total	**0.0340**	**0.1466**	**0.3407**	**1.4800e-003**	**0.1248**	**1.5200e-003**	**0.1264**	**0.0337**	**1.4400e-003**	**0.0351**	**0.0000**	**139.4881**	**139.4881**	**2.5500e-003**	**0.0111**	**142.8528**

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

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	0.0133					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0237**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0269**	**20.0269**	**6.4800e-003**	**0.0000**	**20.1888**

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	4.9000e-004	3.6000e-004	4.7100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2695	1.2695	3.0000e-005	3.0000e-005	1.2802
Total	**4.9000e-004**	**3.6000e-004**	**4.7100e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.2695**	**1.2695**	**3.0000e-005**	**3.0000e-005**	**1.2802**

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

3.4 Paving - 2023

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	0.0133					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0237**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0268**	**20.0268**	**6.4800e-003**	**0.0000**	**20.1888**

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	4.9000e-004	3.6000e-004	4.7100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2695	1.2695	3.0000e-005	3.0000e-005	1.2802
Total	**4.9000e-004**	**3.6000e-004**	**4.7100e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.2695**	**1.2695**	**3.0000e-005**	**3.0000e-005**	**1.2802**

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

3.5 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8515					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	**0.8524**	**6.5100e-003**	**9.0600e-003**	**1.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2785**

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	1.2000e-003	8.9000e-004	0.0116	3.0000e-005	4.0700e-003	2.0000e-005	4.0900e-003	1.0800e-003	2.0000e-005	1.1000e-003	0.0000	3.1314	3.1314	8.0000e-005	8.0000e-005	3.1578
Total	**1.2000e-003**	**8.9000e-004**	**0.0116**	**3.0000e-005**	**4.0700e-003**	**2.0000e-005**	**4.0900e-003**	**1.0800e-003**	**2.0000e-005**	**1.1000e-003**	**0.0000**	**3.1314**	**3.1314**	**8.0000e-005**	**8.0000e-005**	**3.1578**

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

3.5 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8515					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	**0.8524**	**6.5100e-003**	**9.0600e-003**	**1.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2785**

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	1.2000e-003	8.9000e-004	0.0116	3.0000e-005	4.0700e-003	2.0000e-005	4.0900e-003	1.0800e-003	2.0000e-005	1.1000e-003	0.0000	3.1314	3.1314	8.0000e-005	8.0000e-005	3.1578
Total	**1.2000e-003**	**8.9000e-004**	**0.0116**	**3.0000e-005**	**4.0700e-003**	**2.0000e-005**	**4.0900e-003**	**1.0800e-003**	**2.0000e-005**	**1.1000e-003**	**0.0000**	**3.1314**	**3.1314**	**8.0000e-005**	**8.0000e-005**	**3.1578**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	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	0.2679	1.5156	2.8453	0.0111	0.7674	0.0147	0.7821	0.2073	0.0140	0.2213	0.0000	1,050.9989	1,050.9989	0.0327	0.1063	1,083.4869
Unmitigated	0.3452	2.2171	4.1873	0.0179	1.2720	0.0241	1.2961	0.3437	0.0229	0.3665	0.0000	1,701.3279	1,701.3279	0.0471	0.1678	1,752.5035

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	605.35	605.35	605.35	3,254,776	1,963,567
Total	605.35	605.35	605.35	3,254,776	1,963,567

4.3 Trip Type Information

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

	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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
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
Unrefrigerated Warehouse-No	40.00	8.40	6.90	27.00	0.00	73.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Other Non-Asphalt Surfaces	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Parking Lot	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Unrefrigerated Warehouse-No Rail	0.420472	0.044042	0.135720	0.110853	0.035298	0.009702	0.056000	0.169000	0.000000	0.000000	0.018912	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	145.3271	145.3271	0.0123	1.4900e-003	146.0768
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	145.3271	145.3271	0.0123	1.4900e-003	146.0768
NaturalGas Mitigated	3.6200e-003	0.0330	0.0277	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	35.8732	35.8732	6.9000e-004	6.6000e-004	36.0864
NaturalGas Unmitigated	3.6200e-003	0.0330	0.0277	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	35.8732	35.8732	6.9000e-004	6.6000e-004	36.0864

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	672238	3.6200e-003	0.0330	0.0277	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	35.8732	35.8732	6.9000e-004	6.6000e-004	36.0864
Total		**3.6200e-003**	**0.0330**	**0.0277**	**2.0000e-004**		**2.5000e-003**	**2.5000e-003**		**2.5000e-003**	**2.5000e-003**	**0.0000**	**35.8732**	**35.8732**	**6.9000e-004**	**6.6000e-004**	**36.0864**

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	672238	3.6200e-003	0.0330	0.0277	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	35.8732	35.8732	6.9000e-004	6.6000e-004	36.0864
Total		**3.6200e-003**	**0.0330**	**0.0277**	**2.0000e-004**		**2.5000e-003**	**2.5000e-003**		**2.5000e-003**	**2.5000e-003**	**0.0000**	**35.8732**	**35.8732**	**6.9000e-004**	**6.6000e-004**	**36.0864**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	43540	7.7216	6.5000e-004	8.0000e-005	7.7615
Unrefrigerated Warehouse-No Rail	775917	137.6054	0.0116	1.4100e-003	138.3153
Total		**145.3271**	**0.0123**	**1.4900e-003**	**146.0768**

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

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	43540	7.7216	6.5000e-004	8.0000e-005	7.7615
Unrefrigerated Warehouse-No Rail	775917	137.6054	0.0116	1.4100e-003	138.3153
Total		**145.3271**	**0.0123**	**1.4900e-003**	**146.0768**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	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	1.4076	9.0000e-005	9.6500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0188	0.0188	5.0000e-005	0.0000	0.0200
Unmitigated	1.4076	9.0000e-005	9.6500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0188	0.0188	5.0000e-005	0.0000	0.0200

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1627					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2440					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.9000e-004	9.0000e-005	9.6500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0188	0.0188	5.0000e-005	0.0000	0.0200
Total	**1.4076**	**9.0000e-005**	**9.6500e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0188**	**0.0188**	**5.0000e-005**	**0.0000**	**0.0200**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	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	0.1627					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2440					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.9000e-004	9.0000e-005	9.6500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0188	0.0188	5.0000e-005	0.0000	0.0200
Total	**1.4076**	**9.0000e-005**	**9.6500e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0188**	**0.0188**	**5.0000e-005**	**0.0000**	**0.0200**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	203.1353	2.5353	0.0613	284.7941
Unmitigated	203.1353	2.5353	0.0613	284.7941

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	77.3416 / 0	203.1353	2.5353	0.0613	284.7941
Total		**203.1353**	**2.5353**	**0.0613**	**284.7941**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	77.3416 / 0	203.1353	2.5353	0.0613	284.7941
Total		**203.1353**	**2.5353**	**0.0613**	**284.7941**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Annual

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	63.8163	3.7714	0.0000	158.1022

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	314.38	63.8163	3.7714	0.0000	158.1022
Total		**63.8163**	**3.7714**	**0.0000**	**158.1022**

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

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces		0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces		0.0000	0.0000	0.0000	0.0000
Parking Lot		0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail		0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

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

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

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	121.7760	0.0000	0.0000	121.7760

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	172	121.7760	0.0000	0.0000	121.7760
Total		**121.7760**	**0.0000**	**0.0000**	**121.7760**

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

19370 Redlands Ave West Industrial Project

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	334.45	1000sqft	7.59	334,447.00	0
Other Asphalt Surfaces	7.38	Acre	7.38	321,472.80	0
Other Non-Asphalt Surfaces	103.44	1000sqft	2.37	103,440.00	0
Parking Lot	311.00	Space	2.80	124,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (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 comment on "Unsubstantiated Changes to Individual Construction Phase Lengths."

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

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Consistent with the IS/MND's model.

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

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

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

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

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

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

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

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

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	370.00	190.00
tblFleetMix	HHD	0.02	0.17
tblFleetMix	LDA	0.53	0.42
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT2	0.17	0.14
tblFleetMix	LHD1	0.03	0.04
tblFleetMix	LHD2	7.3100e-003	9.7020e-003
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MDV	0.14	0.11
tblFleetMix	MH	5.4680e-003	0.00
tblFleetMix	MHD	0.01	0.06
tblFleetMix	OBUS	6.1600e-004	0.00
tblFleetMix	SBUS	1.1000e-003	0.00
tblFleetMix	UBUS	3.1500e-004	0.00
tblLandUse	LandUseSquareFeet	334,450.00	334,447.00
tblLandUse	LotAcreage	7.68	7.59
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	172.00
tblVehicleTrips	CNW_TTP	41.00	73.00
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	CW_TTP	59.00	27.00
tblVehicleTrips	ST_TR	1.74	1.81
tblVehicleTrips	SU_TR	1.74	1.81
tblVehicleTrips	WD_TR	1.74	1.81

2.0 Emissions Summary

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
2022	4.5951	38.8946	43.4251	0.1095	9.4271	1.6360	11.0632	3.7130	1.5051	5.2182	0.0000	10,917.5749	10,917.5749	1.9493	0.5092	11,096.3712
2023	170.7549	29.7378	41.8546	0.1072	5.0756	1.2089	6.2845	1.3672	1.1431	2.5103	0.0000	10,706.0420	10,706.0420	1.0619	0.4840	10,876.8240
Maximum	**170.7549**	**38.8946**	**43.4251**	**0.1095**	**9.4271**	**1.6360**	**11.0632**	**3.7130**	**1.5051**	**5.2182**	**0.0000**	**10,917.5749**	**10,917.5749**	**1.9493**	**0.5092**	**11,096.3712**

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					
2022	4.5951	38.8946	43.4251	0.1095	9.4271	1.6360	11.0632	3.7130	1.5051	5.2182	0.0000	10,917.5749	10,917.5749	1.9493	0.5092	11,096.3712
2023	170.7549	29.7378	41.8546	0.1072	5.0756	1.2089	6.2845	1.3672	1.1431	2.5103	0.0000	10,706.0420	10,706.0420	1.0619	0.4840	10,876.8240
Maximum	**170.7549**	**38.8946**	**43.4251**	**0.1095**	**9.4271**	**1.6360**	**11.0632**	**3.7130**	**1.5051**	**5.2182**	**0.0000**	**10,917.5749**	**10,917.5749**	**1.9493**	**0.5092**	**11,096.3712**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	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

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	lb/day										lb/day					
Area	7.7150	7.0000e-004	0.0772	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		0.1655	0.1655	4.3000e-004		0.1764
Energy	0.0199	0.1806	0.1517	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.6764	216.6764	4.1500e-003	3.9700e-003	217.9640
Mobile	2.1142	11.5245	25.2578	0.1017	7.1024	0.1323	7.2347	1.9161	0.1258	2.0419		10,627.4879	10,627.4879	0.2842	1.0097	10,935.4966
Total	**9.8491**	**11.7058**	**25.4867**	**0.1028**	**7.1024**	**0.1463**	**7.2487**	**1.9161**	**0.1398**	**2.0559**		**10,844.3298**	**10,844.3298**	**0.2888**	**1.0137**	**11,153.6370**

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	7.7150	7.0000e-004	0.0772	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		0.1655	0.1655	4.3000e-004		0.1764
Energy	0.0199	0.1806	0.1517	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.6764	216.6764	4.1500e-003	3.9700e-003	217.9640
Mobile	1.6847	7.8989	16.8738	0.0628	4.2848	0.0808	4.3656	1.1559	0.0768	1.2328		6,558.8722	6,558.8722	0.1950	0.6394	6,754.2719
Total	**9.4196**	**8.0801**	**17.1027**	**0.0639**	**4.2848**	**0.0948**	**4.3796**	**1.1559**	**0.0908**	**1.2468**		**6,775.7141**	**6,775.7141**	**0.1996**	**0.6433**	**6,972.4122**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**4.36**	**30.97**	**32.90**	**37.89**	**39.67**	**35.21**	**39.58**	**39.67**	**35.05**	**39.36**	**0.00**	**37.52**	**37.52**	**30.89**	**36.54**	**37.49**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	5/1/2022	6/17/2022	5	35	
2	Building Construction	Building Construction	6/18/2022	3/10/2023	5	190	
3	Paving	Paving	3/11/2023	4/7/2023	5	20	
4	Architectural Coating	Architectural Coating	4/8/2023	4/21/2023	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 105

Acres of Paving: 12.55

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 501,671; Non-Residential Outdoor: 167,224; Striped Parking Area: 32,959 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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	2	7.00	231	0.29
Building Construction	Forklifts	4	8.00	89	0.20

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

Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	14	371.00	145.00	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	74.00	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

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**9.2036**	**1.6349**	**10.8385**	**3.6538**	**1.5041**	**5.1579**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0788	0.0511	0.7973	2.0300e-003	0.2236	1.1100e-003	0.2247	0.0593	1.0300e-003	0.0603		206.7078	206.7078	5.1200e-003	5.0800e-003	208.3509
Total	**0.0788**	**0.0511**	**0.7973**	**2.0300e-003**	**0.2236**	**1.1100e-003**	**0.2247**	**0.0593**	**1.0300e-003**	**0.0603**		**206.7078**	**206.7078**	**5.1200e-003**	**5.0800e-003**	**208.3509**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

3.2 Grading - 2022

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					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**9.2036**	**1.6349**	**10.8385**	**3.6538**	**1.5041**	**5.1579**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0788	0.0511	0.7973	2.0300e-003	0.2236	1.1100e-003	0.2247	0.0593	1.0300e-003	0.0603		206.7078	206.7078	5.1200e-003	5.0800e-003	208.3509
Total	**0.0788**	**0.0511**	**0.7973**	**2.0300e-003**	**0.2236**	**1.1100e-003**	**0.2247**	**0.0593**	**1.0300e-003**	**0.0603**		**206.7078**	**206.7078**	**5.1200e-003**	**5.0800e-003**	**208.3509**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8970	26.1891	26.5029	0.0454		1.3206	1.3206		1.2486	1.2486		4,285.4374	4,285.4374	0.9576		4,309.3784
Total	**2.8970**	**26.1891**	**26.5029**	**0.0454**		**1.3206**	**1.3206**		**1.2486**	**1.2486**		**4,285.4374**	**4,285.4374**	**0.9576**		**4,309.3784**

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	0.2360	6.1315	2.1320	0.0264	0.9288	0.0884	1.0172	0.2674	0.0846	0.3520		2,797.7074	2,797.7074	0.0296	0.4149	2,922.0842
Worker	1.4621	0.9475	14.7902	0.0377	4.1469	0.0207	4.1676	1.0998	0.0190	1.1188		3,834.4301	3,834.4301	0.0950	0.0943	3,864.9086
Total	**1.6980**	**7.0790**	**16.9221**	**0.0641**	**5.0757**	**0.1091**	**5.1847**	**1.3672**	**0.1036**	**1.4708**		**6,632.1375**	**6,632.1375**	**0.1246**	**0.5092**	**6,786.9928**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

3.3 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8970	26.1891	26.5029	0.0454		1.3206	1.3206		1.2486	1.2486	0.0000	4,285.4373	4,285.4373	0.9576		4,309.3784
Total	**2.8970**	**26.1891**	**26.5029**	**0.0454**		**1.3206**	**1.3206**		**1.2486**	**1.2486**	**0.0000**	**4,285.4373**	**4,285.4373**	**0.9576**		**4,309.3784**

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	0.2360	6.1315	2.1320	0.0264	0.9288	0.0884	1.0172	0.2674	0.0846	0.3520		2,797.7074	2,797.7074	0.0296	0.4149	2,922.0842
Worker	1.4621	0.9475	14.7902	0.0377	4.1469	0.0207	4.1676	1.0998	0.0190	1.1188		3,834.4301	3,834.4301	0.0950	0.0943	3,864.9086
Total	**1.6980**	**7.0790**	**16.9221**	**0.0641**	**5.0757**	**0.1091**	**5.1847**	**1.3672**	**0.1036**	**1.4708**		**6,632.1375**	**6,632.1375**	**0.1246**	**0.5092**	**6,786.9928**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

3.3 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6756	24.1630	26.2936	0.0454		1.1482	1.1482		1.0857	1.0857		4,286.5993	4,286.5993	0.9493		4,310.3306
Total	**2.6756**	**24.1630**	**26.2936**	**0.0454**		**1.1482**	**1.1482**		**1.0857**	**1.0857**		**4,286.5993**	**4,286.5993**	**0.9493**		**4,310.3306**

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	0.1634	4.7373	1.9506	0.0253	0.9287	0.0413	0.9700	0.2674	0.0395	0.3069		2,686.4295	2,686.4295	0.0274	0.3970	2,805.4126
Worker	1.3555	0.8376	13.6104	0.0365	4.1469	0.0195	4.1664	1.0998	0.0179	1.1177		3,733.0132	3,733.0132	0.0852	0.0870	3,761.0808
Total	**1.5189**	**5.5748**	**15.5610**	**0.0618**	**5.0756**	**0.0607**	**5.1363**	**1.3672**	**0.0574**	**1.4246**		**6,419.4427**	**6,419.4427**	**0.1126**	**0.4840**	**6,566.4934**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

3.3 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6756	24.1630	26.2936	0.0454		1.1482	1.1482		1.0857	1.0857	0.0000	4,286.5993	4,286.5993	0.9493		4,310.3306
Total	**2.6756**	**24.1630**	**26.2936**	**0.0454**		**1.1482**	**1.1482**		**1.0857**	**1.0857**	**0.0000**	**4,286.5993**	**4,286.5993**	**0.9493**		**4,310.3306**

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	0.1634	4.7373	1.9506	0.0253	0.9287	0.0413	0.9700	0.2674	0.0395	0.3069		2,686.4295	2,686.4295	0.0274	0.3970	2,805.4126
Worker	1.3555	0.8376	13.6104	0.0365	4.1469	0.0195	4.1664	1.0998	0.0179	1.1177		3,733.0132	3,733.0132	0.0852	0.0870	3,761.0808
Total	**1.5189**	**5.5748**	**15.5610**	**0.0618**	**5.0756**	**0.0607**	**5.1363**	**1.3672**	**0.0574**	**1.4246**		**6,419.4427**	**6,419.4427**	**0.1126**	**0.4840**	**6,566.4934**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	1.3336					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3663**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

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	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653
Total	**0.0548**	**0.0339**	**0.5503**	**1.4700e-003**	**0.1677**	**7.9000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**150.9305**	**150.9305**	**3.4500e-003**	**3.5200e-003**	**152.0653**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

3.4 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	1.3336					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3663**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

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	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653
Total	**0.0548**	**0.0339**	**0.5503**	**1.4700e-003**	**0.1677**	**7.9000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**150.9305**	**150.9305**	**3.4500e-003**	**3.5200e-003**	**152.0653**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

3.5 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	170.2929					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**170.4846**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	0.2704	0.1671	2.7148	7.2800e-003	0.8272	3.8800e-003	0.8310	0.2194	3.5700e-003	0.2229		744.5902	744.5902	0.0170	0.0174	750.1886
Total	**0.2704**	**0.1671**	**2.7148**	**7.2800e-003**	**0.8272**	**3.8800e-003**	**0.8310**	**0.2194**	**3.5700e-003**	**0.2229**		**744.5902**	**744.5902**	**0.0170**	**0.0174**	**750.1886**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

3.5 Architectural Coating - 2023

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	170.2929					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**170.4846**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	0.2704	0.1671	2.7148	7.2800e-003	0.8272	3.8800e-003	0.8310	0.2194	3.5700e-003	0.2229		744.5902	744.5902	0.0170	0.0174	750.1886
Total	**0.2704**	**0.1671**	**2.7148**	**7.2800e-003**	**0.8272**	**3.8800e-003**	**0.8310**	**0.2194**	**3.5700e-003**	**0.2229**		**744.5902**	**744.5902**	**0.0170**	**0.0174**	**750.1886**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	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	1.6847	7.8989	16.8738	0.0628	4.2848	0.0808	4.3656	1.1559	0.0768	1.2328		6,558.8722	6,558.8722	0.1950	0.6394	6,754.2719
Unmitigated	2.1142	11.5245	25.2578	0.1017	7.1024	0.1323	7.2347	1.9161	0.1258	2.0419		10,627.4879	10,627.4879	0.2842	1.0097	10,935.4966

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	605.35	605.35	605.35	3,254,776	1,963,567
Total	605.35	605.35	605.35	3,254,776	1,963,567

4.3 Trip Type Information

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

	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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
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
Unrefrigerated Warehouse-No	40.00	8.40	6.90	27.00	0.00	73.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Other Non-Asphalt Surfaces	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Parking Lot	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Unrefrigerated Warehouse-No Rail	0.420472	0.044042	0.135720	0.110853	0.035298	0.009702	0.056000	0.169000	0.000000	0.000000	0.018912	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0199	0.1806	0.1517	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.6764	216.6764	4.1500e-003	3.9700e-003	217.9640
NaturalGas Unmitigated	0.0199	0.1806	0.1517	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.6764	216.6764	4.1500e-003	3.9700e-003	217.9640

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1841.75	0.0199	0.1806	0.1517	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.6764	216.6764	4.1500e-003	3.9700e-003	217.9640
Total		**0.0199**	**0.1806**	**0.1517**	**1.0800e-003**		**0.0137**	**0.0137**		**0.0137**	**0.0137**		**216.6764**	**216.6764**	**4.1500e-003**	**3.9700e-003**	**217.9640**

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1.84175	0.0199	0.1806	0.1517	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.6764	216.6764	4.1500e-003	3.9700e-003	217.9640
Total		**0.0199**	**0.1806**	**0.1517**	**1.0800e-003**		**0.0137**	**0.0137**		**0.0137**	**0.0137**		**216.6764**	**216.6764**	**4.1500e-003**	**3.9700e-003**	**217.9640**

6.0 Area Detail

6.1 Mitigation Measures Area

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.7150	7.0000e-004	0.0772	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		0.1655	0.1655	4.3000e-004		0.1764
Unmitigated	7.7150	7.0000e-004	0.0772	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		0.1655	0.1655	4.3000e-004		0.1764

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.8166					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.1500e-003	7.0000e-004	0.0772	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		0.1655	0.1655	4.3000e-004		0.1764
Total	**7.7150**	**7.0000e-004**	**0.0772**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**		**0.1655**	**0.1655**	**4.3000e-004**		**0.1764**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.8166					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.1500e-003	7.0000e-004	0.0772	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		0.1655	0.1655	4.3000e-004		0.1764
Total	**7.7150**	**7.0000e-004**	**0.0772**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**		**0.1655**	**0.1655**	**4.3000e-004**		**0.1764**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

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

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

19370 Redlands Ave West Industrial Project

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	334.45	1000sqft	7.59	334,447.00	0
Other Asphalt Surfaces	7.38	Acre	7.38	321,472.80	0
Other Non-Asphalt Surfaces	103.44	1000sqft	2.37	103,440.00	0
Parking Lot	311.00	Space	2.80	124,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (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 comment on "Unsubstantiated Changes to Individual Construction Phase Lengths."

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

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Consistent with the IS/MND's model.

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

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

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

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

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

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

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

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

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	370.00	190.00
tblFleetMix	HHD	0.02	0.17
tblFleetMix	LDA	0.53	0.42
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT2	0.17	0.14
tblFleetMix	LHD1	0.03	0.04
tblFleetMix	LHD2	7.3100e-003	9.7020e-003
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MDV	0.14	0.11
tblFleetMix	MH	5.4680e-003	0.00
tblFleetMix	MHD	0.01	0.06
tblFleetMix	OBUS	6.1600e-004	0.00
tblFleetMix	SBUS	1.1000e-003	0.00
tblFleetMix	UBUS	3.1500e-004	0.00
tblLandUse	LandUseSquareFeet	334,450.00	334,447.00
tblLandUse	LotAcreage	7.68	7.59
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	172.00
tblVehicleTrips	CNW_TTP	41.00	73.00
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	CW_TTP	59.00	27.00
tblVehicleTrips	ST_TR	1.74	1.81
tblVehicleTrips	SU_TR	1.74	1.81
tblVehicleTrips	WD_TR	1.74	1.81

2.0 Emissions Summary

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
2022	4.4887	38.8965	40.7032	0.1059	9.4271	1.6360	11.0632	3.7130	1.5051	5.2182	0.0000	10,559.4009	10,559.4009	1.9493	0.5122	10,739.0680
2023	170.7380	30.0560	39.3618	0.1038	5.0756	1.2091	6.2847	1.3672	1.1432	2.5104	0.0000	10,362.1412	10,362.1412	1.0611	0.4874	10,533.9047
Maximum	**170.7380**	**38.8965**	**40.7032**	**0.1059**	**9.4271**	**1.6360**	**11.0632**	**3.7130**	**1.5051**	**5.2182**	**0.0000**	**10,559.4009**	**10,559.4009**	**1.9493**	**0.5122**	**10,739.0680**

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					
2022	4.4887	38.8965	40.7032	0.1059	9.4271	1.6360	11.0632	3.7130	1.5051	5.2182	0.0000	10,559.4009	10,559.4009	1.9493	0.5122	10,739.0680
2023	170.7380	30.0560	39.3618	0.1038	5.0756	1.2091	6.2847	1.3672	1.1432	2.5104	0.0000	10,362.1412	10,362.1412	1.0611	0.4874	10,533.9047
Maximum	**170.7380**	**38.8965**	**40.7032**	**0.1059**	**9.4271**	**1.6360**	**11.0632**	**3.7130**	**1.5051**	**5.2182**	**0.0000**	**10,559.4009**	**10,559.4009**	**1.9493**	**0.5122**	**10,739.0680**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	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

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	lb/day										lb/day					
Area	7.7150	7.0000e-004	0.0772	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		0.1655	0.1655	4.3000e-004		0.1764
Energy	0.0199	0.1806	0.1517	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.6764	216.6764	4.1500e-003	3.9700e-003	217.9640
Mobile	1.8700	12.2110	22.2961	0.0979	7.1024	0.1325	7.2349	1.9161	0.1260	2.0421		10,231.7727	10,231.7727	0.2848	1.0162	10,541.7339
Total	**9.6048**	**12.3922**	**22.5250**	**0.0990**	**7.1024**	**0.1465**	**7.2489**	**1.9161**	**0.1400**	**2.0561**		**10,448.6146**	**10,448.6146**	**0.2894**	**1.0202**	**10,759.8743**

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	7.7150	7.0000e-004	0.0772	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		0.1655	0.1655	4.3000e-004		0.1764
Energy	0.0199	0.1806	0.1517	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.6764	216.6764	4.1500e-003	3.9700e-003	217.9640
Mobile	1.4489	8.3874	15.2408	0.0605	4.2848	0.0810	4.3658	1.1559	0.0770	1.2329		6,324.1253	6,324.1253	0.1983	0.6442	6,521.0445
Total	**9.1838**	**8.5686**	**15.4696**	**0.0616**	**4.2848**	**0.0950**	**4.3798**	**1.1559**	**0.0910**	**1.2469**		**6,540.9672**	**6,540.9672**	**0.2028**	**0.6481**	**6,739.1849**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**4.38**	**30.85**	**31.32**	**37.79**	**39.67**	**35.16**	**39.58**	**39.67**	**35.00**	**39.35**	**0.00**	**37.40**	**37.40**	**29.91**	**36.47**	**37.37**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	5/1/2022	6/17/2022	5	35	
2	Building Construction	Building Construction	6/18/2022	3/10/2023	5	190	
3	Paving	Paving	3/11/2023	4/7/2023	5	20	
4	Architectural Coating	Architectural Coating	4/8/2023	4/21/2023	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 105

Acres of Paving: 12.55

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 501,671; Non-Residential Outdoor: 167,224; Striped Parking Area: 32,959 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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	2	7.00	231	0.29
Building Construction	Forklifts	4	8.00	89	0.20

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	14	371.00	145.00	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	74.00	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

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

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**9.2036**	**1.6349**	**10.8385**	**3.6538**	**1.5041**	**5.1579**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0736	0.0530	0.6462	1.8400e-003	0.2236	1.1100e-003	0.2247	0.0593	1.0300e-003	0.0603		187.2348	187.2348	5.0800e-003	5.2000e-003	188.9129
Total	**0.0736**	**0.0530**	**0.6462**	**1.8400e-003**	**0.2236**	**1.1100e-003**	**0.2247**	**0.0593**	**1.0300e-003**	**0.0603**		**187.2348**	**187.2348**	**5.0800e-003**	**5.2000e-003**	**188.9129**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

3.2 Grading - 2022

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					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**9.2036**	**1.6349**	**10.8385**	**3.6538**	**1.5041**	**5.1579**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0736	0.0530	0.6462	1.8400e-003	0.2236	1.1100e-003	0.2247	0.0593	1.0300e-003	0.0603		187.2348	187.2348	5.0800e-003	5.2000e-003	188.9129
Total	**0.0736**	**0.0530**	**0.6462**	**1.8400e-003**	**0.2236**	**1.1100e-003**	**0.2247**	**0.0593**	**1.0300e-003**	**0.0603**		**187.2348**	**187.2348**	**5.0800e-003**	**5.2000e-003**	**188.9129**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8970	26.1891	26.5029	0.0454		1.3206	1.3206		1.2486	1.2486		4,285.4374	4,285.4374	0.9576		4,309.3784
Total	**2.8970**	**26.1891**	**26.5029**	**0.0454**		**1.3206**	**1.3206**		**1.2486**	**1.2486**		**4,285.4374**	**4,285.4374**	**0.9576**		**4,309.3784**

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	0.2259	6.4596	2.2139	0.0264	0.9288	0.0886	1.0174	0.2674	0.0848	0.3522		2,800.7586	2,800.7586	0.0292	0.4157	2,925.3560
Worker	1.3658	0.9835	11.9865	0.0341	4.1469	0.0207	4.1676	1.0998	0.0190	1.1188		3,473.2049	3,473.2049	0.0943	0.0966	3,504.3336
Total	**1.5917**	**7.4431**	**14.2003**	**0.0606**	**5.0757**	**0.1093**	**5.1850**	**1.3672**	**0.1038**	**1.4710**		**6,273.9635**	**6,273.9635**	**0.1235**	**0.5122**	**6,429.6896**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

3.3 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8970	26.1891	26.5029	0.0454		1.3206	1.3206		1.2486	1.2486	0.0000	4,285.4373	4,285.4373	0.9576		4,309.3784
Total	**2.8970**	**26.1891**	**26.5029**	**0.0454**		**1.3206**	**1.3206**		**1.2486**	**1.2486**	**0.0000**	**4,285.4373**	**4,285.4373**	**0.9576**		**4,309.3784**

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	0.2259	6.4596	2.2139	0.0264	0.9288	0.0886	1.0174	0.2674	0.0848	0.3522		2,800.7586	2,800.7586	0.0292	0.4157	2,925.3560
Worker	1.3658	0.9835	11.9865	0.0341	4.1469	0.0207	4.1676	1.0998	0.0190	1.1188		3,473.2049	3,473.2049	0.0943	0.0966	3,504.3336
Total	**1.5917**	**7.4431**	**14.2003**	**0.0606**	**5.0757**	**0.1093**	**5.1850**	**1.3672**	**0.1038**	**1.4710**		**6,273.9635**	**6,273.9635**	**0.1235**	**0.5122**	**6,429.6896**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

3.3 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6756	24.1630	26.2936	0.0454		1.1482	1.1482		1.0857	1.0857		4,286.5993	4,286.5993	0.9493		4,310.3306
Total	**2.6756**	**24.1630**	**26.2936**	**0.0454**		**1.1482**	**1.1482**		**1.0857**	**1.0857**		**4,286.5993**	**4,286.5993**	**0.9493**		**4,310.3306**

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	0.1514	5.0240	2.0162	0.0254	0.9287	0.0414	0.9701	0.2674	0.0396	0.3070		2,693.0966	2,693.0966	0.0269	0.3983	2,812.4601
Worker	1.2705	0.8690	11.0519	0.0331	4.1469	0.0195	4.1664	1.0998	0.0179	1.1177		3,382.4453	3,382.4453	0.0850	0.0891	3,411.1141
Total	**1.4218**	**5.8930**	**13.0682**	**0.0585**	**5.0756**	**0.0609**	**5.1365**	**1.3672**	**0.0575**	**1.4247**		**6,075.5419**	**6,075.5419**	**0.1118**	**0.4874**	**6,223.5742**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

3.3 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6756	24.1630	26.2936	0.0454		1.1482	1.1482		1.0857	1.0857	0.0000	4,286.5993	4,286.5993	0.9493		4,310.3306
Total	**2.6756**	**24.1630**	**26.2936**	**0.0454**		**1.1482**	**1.1482**		**1.0857**	**1.0857**	**0.0000**	**4,286.5993**	**4,286.5993**	**0.9493**		**4,310.3306**

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	0.1514	5.0240	2.0162	0.0254	0.9287	0.0414	0.9701	0.2674	0.0396	0.3070		2,693.0966	2,693.0966	0.0269	0.3983	2,812.4601
Worker	1.2705	0.8690	11.0519	0.0331	4.1469	0.0195	4.1664	1.0998	0.0179	1.1177		3,382.4453	3,382.4453	0.0850	0.0891	3,411.1141
Total	**1.4218**	**5.8930**	**13.0682**	**0.0585**	**5.0756**	**0.0609**	**5.1365**	**1.3672**	**0.0575**	**1.4247**		**6,075.5419**	**6,075.5419**	**0.1118**	**0.4874**	**6,223.5742**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	1.3336					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3663**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

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	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157
Total	**0.0514**	**0.0351**	**0.4468**	**1.3400e-003**	**0.1677**	**7.9000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**136.7566**	**136.7566**	**3.4300e-003**	**3.6000e-003**	**137.9157**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

3.4 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	1.3336					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3663**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

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	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157
Total	**0.0514**	**0.0351**	**0.4468**	**1.3400e-003**	**0.1677**	**7.9000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**136.7566**	**136.7566**	**3.4300e-003**	**3.6000e-003**	**137.9157**

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

3.5 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	170.2929					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**170.4846**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	0.2534	0.1733	2.2044	6.5900e-003	0.8272	3.8800e-003	0.8310	0.2194	3.5700e-003	0.2229		674.6656	674.6656	0.0169	0.0178	680.3839
Total	**0.2534**	**0.1733**	**2.2044**	**6.5900e-003**	**0.8272**	**3.8800e-003**	**0.8310**	**0.2194**	**3.5700e-003**	**0.2229**		**674.6656**	**674.6656**	**0.0169**	**0.0178**	**680.3839**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

3.5 Architectural Coating - 2023

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	170.2929					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**170.4846**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	0.2534	0.1733	2.2044	6.5900e-003	0.8272	3.8800e-003	0.8310	0.2194	3.5700e-003	0.2229		674.6656	674.6656	0.0169	0.0178	680.3839
Total	**0.2534**	**0.1733**	**2.2044**	**6.5900e-003**	**0.8272**	**3.8800e-003**	**0.8310**	**0.2194**	**3.5700e-003**	**0.2229**		**674.6656**	**674.6656**	**0.0169**	**0.0178**	**680.3839**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	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	1.4489	8.3874	15.2408	0.0605	4.2848	0.0810	4.3658	1.1559	0.0770	1.2329		6,324.1253	6,324.1253	0.1983	0.6442	6,521.0445
Unmitigated	1.8700	12.2110	22.2961	0.0979	7.1024	0.1325	7.2349	1.9161	0.1260	2.0421		10,231.7727	10,231.7727	0.2848	1.0162	10,541.7339

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	605.35	605.35	605.35	3,254,776	1,963,567
Total	605.35	605.35	605.35	3,254,776	1,963,567

4.3 Trip Type Information

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

	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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
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
Unrefrigerated Warehouse-No	40.00	8.40	6.90	27.00	0.00	73.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Other Non-Asphalt Surfaces	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Parking Lot	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Unrefrigerated Warehouse-No Rail	0.420472	0.044042	0.135720	0.110853	0.035298	0.009702	0.056000	0.169000	0.000000	0.000000	0.018912	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0199	0.1806	0.1517	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.6764	216.6764	4.1500e-003	3.9700e-003	217.9640
NaturalGas Unmitigated	0.0199	0.1806	0.1517	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.6764	216.6764	4.1500e-003	3.9700e-003	217.9640

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1841.75	0.0199	0.1806	0.1517	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.6764	216.6764	4.1500e-003	3.9700e-003	217.9640
Total		**0.0199**	**0.1806**	**0.1517**	**1.0800e-003**		**0.0137**	**0.0137**		**0.0137**	**0.0137**		**216.6764**	**216.6764**	**4.1500e-003**	**3.9700e-003**	**217.9640**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1.84175	0.0199	0.1806	0.1517	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.6764	216.6764	4.1500e-003	3.9700e-003	217.9640
Total		**0.0199**	**0.1806**	**0.1517**	**1.0800e-003**		**0.0137**	**0.0137**		**0.0137**	**0.0137**		**216.6764**	**216.6764**	**4.1500e-003**	**3.9700e-003**	**217.9640**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	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	7.7150	7.0000e-004	0.0772	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		0.1655	0.1655	4.3000e-004		0.1764
Unmitigated	7.7150	7.0000e-004	0.0772	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		0.1655	0.1655	4.3000e-004		0.1764

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.8166					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.1500e-003	7.0000e-004	0.0772	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		0.1655	0.1655	4.3000e-004		0.1764
Total	**7.7150**	**7.0000e-004**	**0.0772**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**		**0.1655**	**0.1655**	**4.3000e-004**		**0.1764**

19370 Redlands Ave West Industrial Project - Riverside-South Coast County, Winter

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.8166					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.1500e-003	7.0000e-004	0.0772	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		0.1655	0.1655	4.3000e-004		0.1764
Total	**7.7150**	**7.0000e-004**	**0.0772**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**		**0.1655**	**0.1655**	**4.3000e-004**		**0.1764**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

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	
2022	
Annual Emissions (tons/year)	0.1347
Daily Emissions (lbs/day)	0.738082192
Construction Duration (days)	245
Total DPM (lbs)	180.830137
Total DPM (g)	82024.55014
Start Date	5/1/2022
End Date	1/1/2023
Construction Days	245
2023	
Annual Emissions (tons/year)	0.0069
Daily Emissions (lbs/day)	0.037808219
Construction Duration (days)	31
Total DPM (lbs)	1.172054795
Total DPM (g)	531.6440548
Start Date	1/1/2023
End Date	2/1/2023
Construction Days	31
Total	
Total DPM (lbs)	182.0021918
Total DPM (g)	82556.19419
Emission Rate (g/s)	0.003461998
Release Height (meters)	3
Total Acreage	20.14
Max Horizontal (meters)	403.74
Min Horizontal (meters)	201.87
Initial Vertical Dimension (meters)	1.5
Setting	Urban
Population	79,835
Start Date	5/1/2022
End Date	2/1/2023
Total Construction Days	276
Total Years of Construction	0.76
Total Years of Operation	29.24

Operation	
Emission Rate	
Annual Emissions (tons/year)	
Daily Emissions (lbs/day)	0
Total DPM (lbs)	0
Emission Rate (g/s)	0
Release Height (meters)	3
Total Acreage	20.14
Max Horizontal (meters)	403.74
Min Horizontal (meters)	201.87
Initial Vertical Dimension (meters)	1.5
Setting	Urban
Population	79,835

AERSCREEN 21112 / AERMOD 21112 11/22/22
10:34:17

TITLE: Redlands Avenue West Industrial Project

********** AREA PARAMETERS **********

SOURCE EMISSION RATE:	0.346E-02	g/s	0.275E-01	lb/hr
AREA EMISSION RATE:	0.425E-07	g/(s-m2)	0.337E-06	lb/(hr-m2)
AREA HEIGHT:	3.00	meters	9.84	feet
AREA SOURCE LONG SIDE:	403.74	meters	1324.61	feet
AREA SOURCE SHORT SIDE:	201.87	meters	662.30	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 SECTOR	SURFACE ROUGHNESS	1-HR CONC (ug/m3)	RADIAL (deg)	DIST (m)	TEMPORAL PERIOD
1*	1.000	2.014	0	200.0	WIN

* = worst case diagonal

```
**********  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)

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
--------------------------------------------------------------------------------


                    MAXIMUM                              MAXIMUM
           DIST     1-HR CONC                  DIST     1-HR CONC
            (m)      (ug/m3)                    (m)      (ug/m3)
         --------------------                --------------------
           1.00     1.543                   2525.00    0.7531E-01
```

25.00	1.618	2550.00	0.7433E-01
50.00	1.690	2575.00	0.7336E-01
75.00	1.755	2600.00	0.7241E-01
100.00	1.815	2625.00	0.7148E-01
125.00	1.871	2650.00	0.7057E-01
150.00	1.922	2675.00	0.6968E-01
175.00	1.969	2700.00	0.6881E-01
200.00	2.014	2725.00	0.6796E-01
225.00	1.967	2750.00	0.6713E-01
250.00	1.457	2775.00	0.6631E-01
275.01	1.229	2800.00	0.6551E-01
300.00	1.084	2825.00	0.6473E-01
325.00	0.9777	2850.00	0.6397E-01
350.00	0.9001	2875.00	0.6322E-01
375.00	0.8341	2900.00	0.6249E-01
400.00	0.7763	2925.00	0.6177E-01
425.00	0.7247	2950.00	0.6107E-01
450.00	0.6789	2975.00	0.6038E-01
475.00	0.6377	3000.00	0.5970E-01
500.00	0.6005	3025.00	0.5904E-01
525.00	0.5671	3050.00	0.5839E-01
550.00	0.5365	3075.00	0.5775E-01
575.00	0.5087	3100.00	0.5712E-01
600.00	0.4830	3125.00	0.5650E-01
625.00	0.4598	3150.00	0.5590E-01
650.00	0.4382	3175.00	0.5531E-01
675.00	0.4183	3200.00	0.5473E-01
700.00	0.4000	3225.00	0.5416E-01
725.00	0.3828	3250.00	0.5360E-01
750.00	0.3670	3275.00	0.5305E-01
775.00	0.3524	3300.00	0.5251E-01
800.00	0.3386	3325.00	0.5198E-01
825.00	0.3256	3350.00	0.5146E-01
850.00	0.3135	3375.00	0.5095E-01
875.00	0.3023	3400.00	0.5044E-01
900.00	0.2917	3425.00	0.4995E-01
925.00	0.2816	3450.00	0.4946E-01
950.00	0.2722	3475.00	0.4899E-01
975.00	0.2633	3500.00	0.4852E-01
1000.00	0.2550	3525.00	0.4806E-01
1025.00	0.2470	3550.00	0.4760E-01
1050.00	0.2394	3575.00	0.4716E-01
1075.00	0.2322	3600.00	0.4671E-01
1100.00	0.2254	3625.00	0.4628E-01
1125.00	0.2189	3650.00	0.4585E-01
1150.00	0.2128	3675.00	0.4543E-01
1175.00	0.2070	3700.00	0.4502E-01
1200.00	0.2015	3725.00	0.4461E-01
1225.00	0.1962	3750.00	0.4481E-01
1250.00	0.1911	3775.00	0.4440E-01

1275.00	0.1862	3800.00	0.4400E-01
1300.00	0.1815	3825.00	0.4361E-01
1325.00	0.1770	3850.00	0.4322E-01
1350.00	0.1727	3875.00	0.4284E-01
1375.00	0.1686	3900.00	0.4247E-01
1400.00	0.1647	3925.00	0.4210E-01
1425.00	0.1609	3950.00	0.4173E-01
1450.00	0.1573	3975.00	0.4138E-01
1475.00	0.1538	4000.00	0.4102E-01
1500.00	0.1505	4025.00	0.4067E-01
1525.00	0.1472	4050.00	0.4033E-01
1550.00	0.1441	4075.00	0.3999E-01
1575.00	0.1411	4100.00	0.3966E-01
1600.00	0.1382	4125.00	0.3933E-01
1625.00	0.1354	4150.00	0.3901E-01
1650.00	0.1327	4175.00	0.3869E-01
1675.00	0.1301	4200.00	0.3837E-01
1700.00	0.1275	4225.00	0.3806E-01
1725.00	0.1251	4250.00	0.3776E-01
1750.00	0.1227	4275.00	0.3746E-01
1775.00	0.1204	4300.00	0.3716E-01
1800.00	0.1182	4325.00	0.3686E-01
1825.00	0.1161	4350.00	0.3658E-01
1850.00	0.1140	4375.00	0.3629E-01
1875.00	0.1120	4400.00	0.3601E-01
1900.00	0.1101	4425.00	0.3573E-01
1925.00	0.1082	4450.00	0.3546E-01
1950.00	0.1063	4475.00	0.3518E-01
1975.00	0.1045	4500.00	0.3492E-01
2000.00	0.1028	4525.00	0.3465E-01
2025.00	0.1011	4550.00	0.3439E-01
2050.00	0.9944E-01	4575.00	0.3414E-01
2075.00	0.9784E-01	4600.00	0.3388E-01
2100.00	0.9629E-01	4625.00	0.3363E-01
2125.00	0.9479E-01	4650.00	0.3339E-01
2150.00	0.9332E-01	4675.00	0.3314E-01
2175.00	0.9190E-01	4700.00	0.3290E-01
2200.00	0.9051E-01	4725.00	0.3266E-01
2225.00	0.8916E-01	4750.00	0.3243E-01
2250.00	0.8785E-01	4775.00	0.3220E-01
2275.00	0.8657E-01	4800.00	0.3197E-01
2300.00	0.8532E-01	4825.00	0.3174E-01
2325.00	0.8410E-01	4850.00	0.3152E-01
2350.00	0.8291E-01	4875.00	0.3130E-01
2375.00	0.8174E-01	4900.00	0.3108E-01
2400.00	0.8061E-01	4925.00	0.3086E-01
2425.00	0.7950E-01	4950.00	0.3065E-01
2450.00	0.7841E-01	4975.00	0.3044E-01
2475.00	0.7735E-01	5000.00	0.3023E-01
2500.00	0.7632E-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	2.017	2.017	2.017	2.017	N/A
DISTANCE FROM SOURCE	202.00 meters				
IMPACT AT THE AMBIENT BOUNDARY	1.543	1.543	1.543	1.543	N/A
DISTANCE FROM SOURCE	1.00 meters				

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

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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.

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.

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.

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:

- 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:

- 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.

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.

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.

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

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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. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' 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:

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

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:

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.

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.

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.

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 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, 5-14-2021
Trial, October 8-4-2021

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

In the United States District Court For the Northern District of Illinois
Theresa Romcoe, Plaintiff vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail, Defendants
Case No.: 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., Plaintiff vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case Number 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 *Plaintiffs*, vs. CNA Insurance Company et al.
Case Number 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, *Plaintiffs,* 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.: 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.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

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

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., Plaintiffs 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 Number: 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.: 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 N0. 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

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 Number 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 Number 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 Number: 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 Number 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 Number 2:07CV1052
Rosenfeld Deposition: July 2009

5. **Attachment B – *Redlands Avenue West Industrial Project Air Quality, Global Climate Change, HRA and Energy Impact Analysis*, Ganddini Group, August 26, 2021, revised December 15, 2022.**