Exhibit No. 6

Pacific Coast Commons Specific Plan
Final Environmental Impact Report
Responses to Additional Comments Received

State Clearinghouse No. 2020050508

Prepared for:

City of El Segundo
350 Main Street
El Segundo, California 90245

Prepared by:

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FEBRUARY 2022

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Section 1. Introduction

All comment letters received by the City of El Segundo ("City") through December 9, 2021 have been included and responded to herein. Comments that raise environmental issues pertinent to the analysis presented in the EIR have been thoroughly addressed in these responses. The City received comment letters from two organizations prior to the City's Planning Commission meeting on December 9, 2021, and verbal comments were also presented at the meeting.

For the new comment letters received, individual comments within the body of each letter have been identified and numbered. Brackets delineating the individual comments and a numeric identifier have been added to the right margin of the letter. Responses to each bracketed comment are included on the page(s) following each comment letter. Table 1 lists the comment letters received, including the commenting organization's name; the assigned numbering; and the date of the correspondence for responses provided in Section 2, Written Comments.

Table 1. List of Comment Letters Received

Comment Letter	Name	Type	Date
1	Southwest Regional Council of Carpenters (via Mitchell M. Tsai, Attorney at Law)	Organization	December 8, 2021
2	Supporters Alliance for Environmental Responsibility ("SAFER", via Lozeau Drury LLP)	Organization	December 9, 2021

Members of the public who attended the City's Planning Commission meeting on December 9, 2021 were also given opportunities to provide verbal comments. The individuals that provided comments are listed in Table 2. Written transcriptions of the verbal comments are provided, with brackets delineating the individual comments and a numeric identifier have been added to the right margin. Responses to each bracketed comment are included on the page(s) following each comment letter. Table 2 lists the commenters from the City's Planning Commission meeting on December 9, 2021 and the assigned numbering for responses provided in Section 3, Verbal Comments.

Table 2. List of Verbal Commenters

Comments	Name	Type	Date
1	Nino Mascolo	Individual	December 9, 2021
2	Byron Washum	Individual	December 9, 2021
3	Ray Lawson (Southwest Regional Council of Carpenters)	Individual	December 9, 2021
4	Paul Morrison	Individual	December 9, 2021
5	Amalia Fuentes - Supporters Alliance for Environmental Responsibility ("SAFER")	Individual	December 9, 2021
6	Maria Barron	Individual	December 9, 2021
7	Matthew Klemp	Individual	December 9, 2021

As presented in Sections 2 and 3 below, none of the comment received identified deficiencies in the Draft or Final EIR analyses that would require recirculation of the EIR pursuant to CEQA Guidelines Section 15088.5.

CEQA Guidelines Section 15088.5, Recirculation of an EIR Prior to Certification, is presented below for reference:

(a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term “information” can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not “significant” unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project’s proponents have declined to implement. “Significant new information” requiring recirculation include, for example, a disclosure showing that:

(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.

(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project’s proponents decline to adopt it.

(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (*Mountain Lion Coalition v. Fish and Game Com.* (1989) 214 Cal.App.3d 1043)

Although no comments have been raised that would require revisions to the Final EIR, these comments are available to the City’s decision makers for their review and consideration as part of their deliberations on the Project’s environmental documentation.

Comment Letter 1

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Attorney At Law

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VIA E-MAIL

December 8, 2021

El Segundo Planning Commission
City of El Segundo
350 Main Street
El Segundo, CA 90245
Em: planning@elsegundo.org

RE: Agenda Item No. H-1: Pacific Coast Commons Specific Plan Project

Dear Chair Baldino and Honorable Commissioners,

On behalf of the Southwest Regional Council of Carpenters ("**Southwest Carpenters**" or "**SWRCC**"), my Office is submitting these comments on Agenda Item No. H-1 for the November 18, 2021 City Planning Commission Meeting for the City of El Segundo's ("**City**" or "**Lead Agency**") Final Environmental Impact Report ("**FEIR or DEIR**") (SCH No. 2020050508) for the Pacific Coast Commons Specific Plan Project. The Project proposes to demolish existing structures, including a former restaurant with meeting/ballroom space, a rental car tenant, and the existing surface parking lots of the Fairfield Inn & Suites by Marriott and Aloft Hotel properties, and would allow for the development of up to 263 new housing units and approximately 11,250 gross square feet of new commercial/retail uses, and associated parking. ("**Project**"). 1-1

The Southwest Carpenters is a labor union representing 50,000 union carpenters in six states and has a strong interest in well ordered land use planning and addressing the environmental impacts of development projects.

Individual members of the Southwest Carpenters live, work and recreate in the City and surrounding communities and would be directly affected by the Project's environmental impacts.

The Southwest Carpenters expressly reserves the right to supplement these comments at or prior to hearings on the Project, and at any later hearings and proceedings related to this Project. Cal. Gov. Code § 65009(b); Cal. Pub. Res. Code § 21177(a); *Bakersfield*

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Citizens for Local Control v. Bakersfield (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121.

SWRCC incorporates by reference all comments raising issues regarding the EIR submitted prior to certification of the EIR for the Project. *Citizens for Clean Energy v City of Woodland* (2014) 225 Cal. App. 4th 173, 191 (finding that any party who has objected to the Project's environmental documentation may assert any issue timely raised by other parties). 1-1 Cont.

Moreover, SWRCC requests that the Lead Agency provide notice for any and all notices referring or related to the Project issued under the California Environmental Quality Act ("**CEQA**"), Cal Public Resources Code ("**PRC**") § 21000 *et seq*, and the California Planning and Zoning Law ("**Planning and Zoning Law**"), Cal. Gov't Code §§ 65000–65010. California Public Resources Code Sections 21092.2, and 21167(f) and Government Code Section 65092 require agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body. 1-2

The City should require the Applicant provide additional community benefits such as requiring local hire and use of a skilled and trained workforce to build the Project. The City should require the use of workers who have graduated from a Joint Labor Management apprenticeship training program approved by the State of California, or have at least as many hours of on-the-job experience in the applicable craft which would be required to graduate from such a state approved apprenticeship training program or who are registered apprentices in an apprenticeship training program approved by the State of California.

Community benefits such as local hire and skilled and trained workforce requirements can also be helpful to reduce environmental impacts and improve the positive economic impact of the Project. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project Site can reduce the length of vendor trips, reduce greenhouse gas emissions and providing localized economic benefits. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project Site can reduce the length of vendor trips, reduce greenhouse gas emissions and providing localized economic benefits. As environmental consultants Matt Hagemann and Paul E. Rosenfeld note: 1-3

> [A]ny local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling.

Skilled and trained workforce requirements promote the development of skilled trades that yield sustainable economic development. As the California Workforce Development Board and the UC Berkeley Center for Labor Research and Education concluded:

> . . . labor should be considered an investment rather than a cost – and investments in growing, diversifying, and upskilling California's workforce can positively affect returns on climate mitigation efforts. In other words, well trained workers are key to delivering emissions reductions and moving California closer to its climate targets.[1]

1-3 Cont.

Recently, on May 7, 2021, the South Coast Air Quality Management District found that the "[u]se of a local state-certified apprenticeship program or a skilled and trained workforce with a local hire component" can result in air pollutant reductions.[2]

Cities are increasingly adopting local skilled and trained workforce policies and requirements into general plans and municipal codes. For example, the City of Hayward 2040 General Plan requires the City to "promote local hiring . . . to help achieve a more positive jobs-housing balance, and reduce regional commuting, gas consumption, and greenhouse gas emissions."[3]

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[1] California Workforce Development Board (2020) Putting California on the High Road: A Jobs and Climate Action Plan for 2030 at p. ii, *available at* https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/Putting-California-on-the-High-Road.pdf

[2] South Coast Air Quality Management District (May 7, 2021) Certify Final Environmental Assessment and Adopt Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions Program, and Proposed Rule 316 – Fees for Rule 2305, Submit Rule 2305 for Inclusion Into the SIP, and Approve Supporting Budget Actions, *available at* http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf?sfvrsn=10

[3] City of Hayward (2014) Hayward 2040 General Plan Policy Document at p. 3-99, *available at* https://www.hayward-ca.gov/sites/default/files/documents/General_Plan_FINAL.pdf.

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In fact, the City of Hayward has gone as far as to adopt a Skilled Labor Force policy into its Downtown Specific Plan and municipal code, requiring developments in its Downtown area to requiring that the City "[c]ontribute to the stabilization of regional construction markets by spurring applicants of housing and nonresidential developments to require contractors to utilize apprentices from state-approved, joint labor-management training programs, . . ."[4] In addition, the City of Hayward requires all projects 30,000 square feet or larger to "utilize apprentices from state-approved, joint labor-management training programs."[5]

Locating jobs closer to residential areas can have significant environmental benefits. As the California Planning Roundtable noted in 2008:

> People who live and work in the same jurisdiction would be more likely to take transit, walk, or bicycle to work than residents of less balanced communities and their vehicle trips would be shorter. Benefits would include potential reductions in both vehicle miles traveled and vehicle hours traveled.[6]

1-3 Cont.

In addition, local hire mandates as well as skill training are critical facets of a strategy to reduce vehicle miles traveled. As planning experts Robert Cervero and Michael Duncan noted, simply placing jobs near housing stock is insufficient to achieve VMT reductions since the skill requirements of available local jobs must be matched to those held by local residents.[7] Some municipalities have tied local hire and skilled and trained workforce policies to local development permits to address transportation issues. As Cervero and Duncan note:

> In nearly built-out Berkeley, CA, the approach to balancing jobs and housing is to create local jobs rather than to develop new housing." The

[4] City of Hayward (2019) Hayward Downtown Specific Plan at p. 5-24, *available at* https://www.hayward-ca.gov/sites/default/files/Hayward%20Downtown%20Specific%20Plan.pdf.

[5] City of Hayward Municipal Code, Chapter 10, § 28.5.3.020(C).

[6] California Planning Roundtable (2008) Deconstructing Jobs-Housing Balance at p. 6, *available at* https://cproundtable.org/static/media/uploads/publications/cpr-jobs-housing.pdf

[7] Cervero, Robert and Duncan, Michael (2006) Which Reduces Vehicle Travel More: Jobs-Housing Balance or Retail-Housing Mixing? Journal of the American Planning Association 72 (4), 475-490, 482, *available at* http://reconnectingamerica.org/assets/Uploads/UTCT-825.pdf.

> city's First Source program encourages businesses to hire local residents, especially for entry- and intermediate-level jobs, and sponsors vocational training to ensure residents are employment-ready. While the program is voluntary, some 300 businesses have used it to date, placing more than 3,000 city residents in local jobs since it was launched in 1986. When needed, these carrots are matched by sticks, since the city is not shy about negotiating corporate participation in First Source as a condition of approval for development permits.

1-3 Cont.

The City should consider utilizing skilled and trained workforce policies and requirements to benefit the local area economically and mitigate greenhouse gas, air quality and transportation impacts.

The City should also require the Project to be built to standards exceeding the current 2019 California Green Building Code to mitigate the Project's environmental impacts and to advance progress towards the State of California's environmental goals.

I. THE PROJECT WOULD BE APPROVED IN VIOLATION OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

A. Background Concerning the California Environmental Quality Act

1-4

CEQA has two basic purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 California Code of Regulations (**"CCR"** or **"CEQA Guidelines"**) § 15002(a)(1).[8] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made. Thus, the EIR 'protects not only the environment but also informed self-government.' [Citation.]" *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564. The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal.

[8] The CEQA Guidelines, codified in Title 14 of the California Code of Regulations, section 15000 *et seq*, are regulatory guidelines promulgated by the state Natural Resources Agency for the implementation of CEQA. (Cal. Pub. Res. Code § 21083.) The CEQA Guidelines are given "great weight in interpreting CEQA except when . . . clearly unauthorized or erroneous." *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal. 4th 204, 217.

App. 4th 1344, 1354 ("*Berkeley Jets*"); *County of Inyo v. Yorty* (1973) 32 Cal. App. 3d 795, 810.

Second, CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring alternatives or mitigation measures. CEQA Guidelines § 15002(a)(2) and (3). *See also, Berkeley Jets,* 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553; *Laurel Heights Improvement Ass'n v. Regents of the University of California* (1988) 47 Cal. 3d 376, 400. The EIR serves to provide public agencies and the public in general with information about the effect that a proposed project is likely to have on the environment and to "identify ways that environmental damage can be avoided or significantly reduced." CEQA Guidelines § 15002(a)(2). If the project has a significant effect on the environment, the agency may approve the project only upon finding that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns" specified in CEQA section 21081. CEQA Guidelines § 15092(b)(2)(A–B).

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position.' A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" *Berkeley Jets,* 91 Cal.App.4th 1344, 1355 (emphasis added) (quoting *Laurel Heights,* 47 Cal.3d at 391, 409 fn. 12). Drawing this line and determining whether the EIR complies with CEQA's information disclosure requirements presents a question of law subject to independent review by the courts. *Sierra Club v. Cnty. of Fresno* (2018) 6 Cal. 5th 502, 515; *Madera Oversight Coalition, Inc. v. County of Madera* (2011) 199 Cal. App. 4th 48, 102, 131. As the court stated in *Berkeley Jets,* 91 Cal. App. 4th at 1355: 1-4 Cont.

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.

The preparation and circulation of an EIR is more than a set of technical hurdles for agencies and developers to overcome. The EIR's function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the public is assured those consequences have been considered. For the EIR to serve these goals it must present information so that the foreseeable impacts of pursuing the project can be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made. *Communities for a Better Environment v. Richmond* (2010) 184 Cal. App. 4th 70, 80 (quoting *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 449–450). 1-4 Cont.

B. CEQA Requires Revision and Recirculation of an Environmental Impact Report When Substantial Changes or New Information Comes to Light

Section 21092.1 of the California Public Resources Code requires that "[w]hen significant new information is added to an environmental impact report after notice has been given pursuant to Section 21092 … but prior to certification, the public agency shall give notice again pursuant to Section 21092, and consult again pursuant to Sections 21104 and 21153 before certifying the environmental impact report" in order to give the public a chance to review and comment upon the information. CEQA Guidelines § 15088.5.

Significant new information includes "changes in the project or environmental setting as well as additional data or other information" that "deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative)." CEQA Guidelines § 15088.5(a). Examples of significant new information requiring recirculation include "new significant environmental impacts from the project or from a new mitigation measure," "substantial increase in the severity of an environmental impact," "feasible project alternative or mitigation measure considerably different from others previously analyzed" as well as when "the draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded." *Id.* 1-5

An agency has an obligation to recirculate an environmental impact report for public notice and comment due to "significant new information" regardless of whether the agency opts to include it in a project's environmental impact report. *Cadiz Land Co. v. Rail Cycle* (2000) 83 Cal.App.4th 74, 95 [finding that in light of a new expert report disclosing potentially significant impacts to groundwater supply "the EIR should have been revised and recirculated for purposes of informing the public and governmental agencies of the volume of groundwater at risk and to allow the public and governmental agencies to respond to such information."]. If significant new information was brought to the attention of an agency prior to certification, an agency is required to revise and recirculate that information as part of the environmental impact report.

Here, the City has made significant revisions to the Draft EIR which are detailed in the FEIR beginning on page 3-1 of that document. These revisions require recirculation of the EIR for an additional public comment period. These are not minor non-substantive revisions.

The City has significantly altered its transportation and cumulative impacts analyses. The City has now added three additional related projects and attached them to the FEIR as Appendix A in the *Revised Future Analysis*. As a result, all related impacts are substantially altered and the EIR needs to be recirculated to allow for adequate public review and comment. The City has changed its transportation analysis as it relates to trip generation, traffic volume, and level of service analysis. (See FEIR, Appendix A.) These changes are accompanied by dozens of pages of expert data analysis that cannot be left to the public for a last-minute glance.

1-5 Cont.

C. The FEIR Failed to Respond to SWRCC's and Expert's Comments

CEQA requires that a lead agency "evaluate comments on environmental issues received from persons who reviewed the draft EIR" and provide a written response with good faith and reasoned analysis. CEQA Guidelines § 15088. The responses are required to be provided in a revision to the draft EIR or in a separate section in the final EIR. *Id.*

SWRCC submitted comments to the DEIR on April 12, 2021 addressed to Planner Paul Samaras. Upon review of the FEIR, it does not appear that the City responded to or considered SWRCC's comments. Those comments are attached hereto as Exhibit A for the City's renewed consideration. A copy of the e-mail where my Office transmitted these comments are attached as Exhibit B.

1-6

III. CONCLUSION

Commenters request that the City deny the Project's proposed Site Plan Review and any other discretionary approvals the City finds necessary and order the revision and recirculation of the Project's environmental impact report to address the aforementioned concerns.

1-7

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Please contact my Office if you have any questions or concerns.

Sincerely,

Mitchell M. Tsai

Attorneys for Southwest Regional
Council of Carpenters

Attached:

April 12, 2021 SWRCC Letter to Paul Samaras and Exhibits (Exhibit A); and

April 12, 2021 E-mail from Leon Ramsey Jr, Mitchell M. Tsai, Attorney at Law to Paul Samaras (Exhibit B).

1-7
Cont.

EXHIBIT A

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Mitchell M. Tsai
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VIA E-MAIL

April 12, 2021

Paul Samaras
City of El Segundo
350 Main Street
El Segundo, CA 90245
Em: psamaras@elsegundo.org

RE: Pacific Coast Commons Specific Plan Project

Dear Mr. Samaras,

On behalf of the Southwest Regional Council of Carpenters ("**Commenter**" or "**Carpenter**"), my Office is submitting these comments on the City of El Segundo's ("**City**" or "**Lead Agency**") Draft Environmental Impact Report ("**DEIR**") (SCH No. 2020050508) for the Pacific Coast Commons Specific Plan Project which would demolish existing structures, including a former restaurant with meeting/ballroom space, a rental car tenant, and the existing surface parking lots of the Fairfield Inn & Suites by Marriott and Aloft Hotel properties, and would allow for the development of up to 263 new housing units and approximately 11,250 gross square feet of new commercial/retail uses, and associated parking. ("**Project**").

The Southwest Carpenters is a labor union representing 50,000 union carpenters in six states and has a strong interest in well ordered land use planning and addressing the environmental impacts of development projects. 1-8

Individual members of the Southwest Carpenters live, work and recreate in the City and surrounding communities and would be directly affected by the Project's environmental impacts.

Commenters expressly reserves the right to supplement these comments at or prior to hearings on the Project, and at any later hearings and proceedings related to this Project. Cal. Gov. Code § 65009(b); Cal. Pub. Res. Code § 21177(a); *Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121.

Commenters expressly reserves the right to supplement these comments at or prior to hearings on the Project, and at any later hearings and proceedings related to this Project. Cal. Gov. Code § 65009(b); Cal. Pub. Res. Code § 21177(a); *Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121.

Commenters incorporates by reference all comments raising issues regarding the EIR submitted prior to certification of the EIR for the Project. *Citizens for Clean Energy v City of Woodland* (2014) 225 Cal. App. 4th 173, 191 (finding that any party who has objected to the Project's environmental documentation may assert any issue timely raised by other parties). 1-8 Cont.

Moreover, Commenter requests that the Lead Agency provide notice for any and all notices referring or related to the Project issued under the California Environmental Quality Act ("**CEQA**"), Cal Public Resources Code ("**PRC**") § 21000 *et seq*, and the California Planning and Zoning Law ("**Planning and Zoning Law**"), Cal. Gov't Code §§ 65000–65010. California Public Resources Code Sections 21092.2, and 21167(f) and Government Code Section 65092 require agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body. 1-9

The City should require the Applicant provide additional community benefits such as requiring local hire and use of a skilled and trained workforce to build the Project. The City should require the use of workers who have graduated from a Joint Labor Management apprenticeship training program approved by the State of California, or have at least as many hours of on-the-job experience in the applicable craft which would be required to graduate from such a state approved apprenticeship training program or who are registered apprentices in an apprenticeship training program approved by the State of California. 1-10

Community benefits such as local hire and skilled and trained workforce requirements can also be helpful to reduce environmental impacts and improve the positive economic impact of the Project. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project Site can reduce the length of vendor trips, reduce greenhouse gas emissions and providing localized economic benefits. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project Site can reduce the length of vendor trips, reduce greenhouse gas emissions and providing localized economic benefits. As environmental consultants Matt Hagemann and Paul E. Rosenfeld note:

> [A]ny local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling.

Skilled and trained workforce requirements promote the development of skilled trades that yield sustainable economic development. As the California Workforce Development Board and the UC Berkeley Center for Labor Research and Education concluded: 1-10 Cont.

> . . . labor should be considered an investment rather than a cost – and investments in growing, diversifying, and upskilling California's workforce can positively affect returns on climate mitigation efforts. In other words, well trained workers are key to delivering emissions reductions and moving California closer to its climate targets.[1]

The City should also require the Project to be built to standards exceeding the current 2019 California Green Building Code to mitigate the Project's environmental impacts and to advance progress towards the State of California's environmental goals.

I. EXPERTS

This comment letter includes comments from air quality and greenhouse gas experts Matt Hagemann, P.G., C.Hg. and Paul Rosenfeld, Ph.D. concerning the DEIR. Their comments, attachments, and Curriculum Vitae ("CV") are attached hereto and are incorporated herein by reference. 1-11

Matt Hagemann, P.G., C.Hg. ("Mr. Hagemann") has over 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

[1] California Workforce Development Board (2020) Putting California on the High Road: A Jobs and Climate Action Plan for 2030 at p. ii, *available at* https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/Putting-California-on-the-High-Road.pdf

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, Mr. Hagemann also served as Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closer. 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, Mr. Hagemann has worked as a founding partner with SWAPE (Soil/Water/Air Protection Enterprise). At SWAPE, Mr. Hagemann 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.

Mr. Hagemann has a Bachelor of Arts degree in geology from Humboldt State University in California and a Masters in Science degree from California State University Los Angeles in California.

Paul Rosenfeld, Ph.D. ("Dr. Rosenfeld") is a principal environmental chemist at SWAPE. Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts on human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risks, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. 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. 1-11 Cont.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particular matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, 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 dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources. 1-11 Cont.

Dr. Rosenfeld has a Ph.D. in soil chemistry from the University of Washington, M.S. in environmental science from U.C. Berkeley, and B.A. in environmental studies from U.C. Santa Barbara.

II. THE PROJECT WOULD BE APPROVED IN VIOLATION OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

A. Background Concerning the California Environmental Quality Act

CEQA has two basic purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 California Code of Regulations (**"CCR"** or **"CEQA Guidelines"**) § 15002(a)(1).[2] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made. Thus, the EIR 'protects not only the environment but also informed self-government.' [Citation.]" *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564. The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 (*"Berkeley Jets"*); *County of Inyo v. Yorty* (1973) 32 Cal. App. 3d 795, 810. 1-12

Second, CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring alternatives or mitigation measures. CEQA Guidelines § 15002(a)(2) and (3). *See also, Berkeley Jets,* 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta*

[2] The CEQA Guidelines, codified in Title 14 of the California Code of Regulations, section 15000 *et seq,* are regulatory guidelines promulgated by the state Natural Resources Agency for the implementation of CEQA. (Cal. Pub. Res. Code § 21083.) The CEQA Guidelines are given "great weight in interpreting CEQA except when . . . clearly unauthorized or erroneous." *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal. 4th 204, 217.

Valley v. Board of Supervisors (1990) 52 Cal.3d 553; *Laurel Heights Improvement Ass'n v. Regents of the University of California* (1988) 47 Cal. 3d 376, 400. The EIR serves to provide public agencies and the public in general with information about the effect that a proposed project is likely to have on the environment and to "identify ways that environmental damage can be avoided or significantly reduced." CEQA Guidelines § 15002(a)(2). If the project has a significant effect on the environment, the agency may approve the project only upon finding that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns" specified in CEQA section 21081. CEQA Guidelines § 15092(b)(2)(A–B).

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position.' A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" *Berkeley Jets*, 91 Cal.App.4th 1344, 1355 (emphasis added) (quoting *Laurel Heights,* 47 Cal.3d at 391, 409 fn. 12). Drawing this line and determining whether the EIR complies with CEQA's information disclosure requirements presents a question of law subject to independent review by the courts. *Sierra Club v. Cnty. of Fresno* (2018) 6 Cal. 5th 502, 515; *Madera Oversight Coalition, Inc. v. County of Madera* (2011) 199 Cal. App. 4th 48, 102, 131. As the court stated in *Berkeley Jets,* 91 Cal. App. 4th at 1355: 1-12 Cont.

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.

The preparation and circulation of an EIR is more than a set of technical hurdles for agencies and developers to overcome. The EIR's function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the public is assured those consequences have been considered. For the EIR to serve these goals it must present information so that the foreseeable impacts of pursuing the project can be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made. *Communities for a Better Environment v. Richmond* (2010) 184 Cal. App. 4th 70, 80 (quoting *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 449–450).

B. <u>CEQA Requires Revision and Recirculation of an Environmental Impact Report When Substantial Changes or New Information Comes to Light</u>

Section 21092.1 of the California Public Resources Code requires that "[w]hen significant new information is added to an environmental impact report after notice has been given pursuant to Section 21092 … but prior to certification, the public agency shall give notice again pursuant to Section 21092, and consult again pursuant to Sections 21104 and 21153 before certifying the environmental impact report" in order to give the public a chance to review and comment upon the information. CEQA Guidelines § 15088.5.

Significant new information includes "changes in the project or environmental setting as well as additional data or other information" that "deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative)." CEQA Guidelines § 15088.5(a). Examples of significant new information requiring recirculation include "new significant environmental impacts from the project or from a new mitigation measure," "substantial increase in the severity of an environmental impact," "feasible project alternative or mitigation measure considerably different from others previously analyzed" as well as when "the draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded." *Id.* 1-13

An agency has an obligation to recirculate an environmental impact report for public notice and comment due to "significant new information" regardless of whether the agency opts to include it in a project's environmental impact report. *Cadiz Land Co. v. Rail Cycle* (2000) 83 Cal.App.4th 74, 95 [finding that in light of a new expert report disclosing potentially significant impacts to groundwater supply "the EIR should have been revised and recirculated for purposes of informing the public and governmental agencies of the volume of groundwater at risk and to allow the public and governmental agencies to respond to such information."]. If significant new information was brought to the attention of an agency prior to certification, an agency is required to revise and recirculate that information as part of the environmental impact report.

C. <u>Due to the COVID-19 Crisis, the City Must Adopt a Mandatory Finding of Significance that the Project May Cause a Substantial Adverse Effect on Human Beings and Mitigate COVID-19 Impacts</u>

CEQA requires that an agency make a finding of significance when a Project may cause a significant adverse effect on human beings. PRC § 21083(b)(3); CEQA Guidelines § 15065(a)(4).

Public health risks related to construction work requires a mandatory finding of significance under CEQA. Construction work has been defined as a Lower to High-risk activity for COVID-19 spread by the Occupations Safety and Health Administration. Recently, several construction sites have been identified as sources of community spread of COVID-19.[3]

SWRCC recommends that the Lead Agency adopt additional CEQA mitigation measures to mitigate public health risks from the Project's construction activities. SWRCC requests that the Lead Agency require safe on-site construction work practices as well as training and certification for any construction workers on the Project Site. 1-14

In particular, based upon SWRCC's experience with safe construction site work practices, SWRCC recommends that the Lead Agency require that while construction activities are being conducted at the Project Site:

<u>Construction Site Design:</u>

- The Project Site will be limited to two controlled entry points.
- Entry points will have temperature screening technicians taking temperature readings when the entry point is open.
- The Temperature Screening Site Plan shows details regarding access to the Project Site and Project Site logistics for conducting temperature screening.
- A 48-hour advance notice will be provided to all trades prior to the first day of temperature screening.

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[3] Santa Clara County Public Health (June 12, 2020) COVID-19 CASES AT CONSTRUCTION SITES HIGHLIGHT NEED FOR CONTINUED VIGILANCE IN SECTORS THAT HAVE REOPENED, *available at* https://www.sccgov.org/sites/covid19/Pages/press-release-06-12-2020-cases-at-construction-sites.aspx.

- The perimeter fence directly adjacent to the entry points will be clearly marked indicating the appropriate 6-foot social distancing position for when you approach the screening area. Please reference the Apex temperature screening site map for additional details.
- There will be clear signage posted at the project site directing you through temperature screening.
- Provide hand washing stations throughout the construction site.

<u>Testing Procedures:</u>

- The temperature screening being used are non-contact devices.
- Temperature readings will not be recorded.
- Personnel will be screened upon entering the testing center and should only take 1-2 seconds per individual.
- Hard hats, head coverings, sweat, dirt, sunscreen or any other cosmetics must be removed on the forehead before temperature screening.
- Anyone who refuses to submit to a temperature screening or does not answer the health screening questions will be refused access to the Project Site.
- Screening will be performed at both entrances from 5:30 am to 7:30 am.; main gate [ZONE 1] and personnel gate [ZONE 2]
- After 7:30 am only the main gate entrance [ZONE 1] will continue to be used for temperature testing for anybody gaining entry to the project site such as returning personnel, deliveries, and visitors.
- If the digital thermometer displays a temperature reading above 100.0 degrees Fahrenheit, a second reading will be taken to verify an accurate reading.

1-14 Cont.

- If the second reading confirms an elevated temperature, DHS will instruct the individual that he/she will not be allowed to enter the Project Site. DHS will also instruct the individual to promptly notify his/her supervisor and his/her human resources (HR) representative and provide them with a copy of Annex A.

Planning

- Require the development of an Infectious Disease Preparedness and Response Plan that will include basic infection prevention measures (requiring the use of personal protection equipment), policies and procedures for prompt identification and isolation of sick individuals, social distancing (prohibiting gatherings of no more than 10 people including all-hands meetings and all-hands lunches) communication and training and workplace controls that meet standards that may be promulgated by the Center for Disease Control, Occupational Safety and Health Administration, Cal/OSHA, California Department of Public Health or applicable local public health agencies.[4]

1-14 Cont.

The United Brotherhood of Carpenters and Carpenters International Training Fund has developed COVID-19 Training and Certification to ensure that Carpenter union members and apprentices conduct safe work practices. The Agency should require that all construction workers undergo COVID-19 Training and Certification before being allowed to conduct construction activities at the Project Site.

D. The DEIR's Mitigation Measures are Impermissibly Vague and Defer Critical Details

1-15

The DEIR improperly defers critical details of mitigation measures. Feasible mitigation measures for significant environmental effects must be set forth in an EIR for

[4] *See also* The Center for Construction Research and Training, North America's Building Trades Unions (April 27 2020) NABTU and CPWR COVIC-19 Standards for U.S Constructions Sites, *available at* https://www.cpwr.com/sites/default/files/NABTU_CPWR_Standards_COVID-19.pdf; Los Angeles County Department of Public Works (2020) Guidelines for Construction Sites During COVID-19 Pandemic, *available at* https://dpw.lacounty.gov/building-and-safety/docs/pw_guidelines-construction-sites.pdf.

consideration by the lead agency's decision makers and the public before certification of the EIR and approval of a project. The formulation of mitigation measures generally cannot be deferred until after certification of the EIR and approval of a project. CEQA Guidelines § 15126.4(a)(1)(B) ("… [f]ormulation of mitigation measures should not be deferred until some future time.").

Deferring critical details of mitigation measures undermines CEQA's purpose as a public information and decision-making statute. "[R]eliance on tentative plans for future mitigation after completion of the CEQA process significantly undermines CEQA's goals of full disclosure and informed decisionmaking; and[,] consequently, these mitigation plans have been overturned on judicial review as constituting improper deferral of environmental assessment." *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal. App. 4th 70, 92 ("*Communities*"). As the Court noted in *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 307, "[a] study conducted after approval of a project will inevitably have a diminished influence on decision-making. Even if the study is subject to administrative approval, it is analogous to the sort of post hoc rationalization of agency actions that has been repeatedly condemned in decisions construing CEQA." 1-15 Cont.

A lead agency's adoption of an EIR's proposed mitigation measure for a significant environmental effect that merely states a "generalized goal" to mitigate a significant effect without committing to any specific criteria or standard of performance violates CEQA by improperly deferring the formulation and adoption of enforceable mitigation measures. *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670; *Communities*, 184 Cal.App.4th at 93 ("EIR merely proposes a generalized goal of no net increase in greenhouse gas emissions and then sets out a handful of cursorily described mitigation measures for future consideration that might serve to mitigate the [project's significant environmental effects."); cf. *Sacramento Old City Assn. v. City Council* (1991) 229 Cal.App.3d 1011, 1028-1029 (upheld EIR that set forth a range of mitigation measures to offset significant traffic impacts where performance criteria would have to be met, even though further study was needed and EIR did not specify which measures had to be adopted by city).].

The following Project mitigation measures are impermissibly vague and defer critical details:

- MM-CUL-1: Calls for development, but does not include details, of a Worker Environmental

Awareness Program (WEAP) in order to address impacts to archeological resources;

- MM-GEO-1: Calls for a paleontologist to prepare a Paleontolgoical Resources Impact Mitigation Program (PRIMP) to mitigate unique paleontological resources but does not include any details of the PRIMP for review;
- MM-HAZ-1: Calls for incorporation of "abatement procedures" to remove asbestos, lead, etc. but does not include any specific performance standards for removal and does not include any plan in the DEIR for review; and
- MM-HAZ-2: Calls for development of a Hazardous Materials Contingency Plan (HMCP) to address potential impacts relating to soil and vapor intrusion with the 76 gas station adjacent to PCC-North, but again, fails to include any plan or any performance standards by which soil vapor would be mitigated to less than significant levels.

1-15 Cont.

(DEIR, ES-10~16.)

E. <u>The DEIR Fails to Support Its Findings with Substantial Evidence</u>

When new information is brought to light showing that an impact previously discussed in the DEIR but found to be insignificant with or without mitigation in the DEIR's analysis has the potential for a significant environmental impact supported by substantial evidence, the EIR must consider and resolve the conflict in the evidence. See *Visalia Retail, L.P. v. City of Visalia* (2018) 20 Cal. App. 5th 1, 13, 17; see also *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal. App. 4th 1099, 1109. While a lead agency has discretion to formulate standards for determining significance and the need for mitigation measures—the choice of any standards or thresholds of significance must be "based to the extent possible on scientific and factual data and an exercise of reasoned judgment based on substantial evidence. CEQA Guidelines § 15064(b); *Cleveland Nat'l Forest Found. v. San Diego Ass'n of Gov'ts* (2017) 3 Cal. App. 5th 497, 515; *Mission Bay Alliance v. Office of Community Inv. & Infrastructure* (2016) 6 Cal. App. 5th 160, 206. And when there is evidence that an 1-16 impact could be significant, an EIR cannot adopt a contrary finding without providing an adequate explanation along with supporting evidence. *East Sacramento Partnership for a Livable City v. City of Sacramento* (2016) 5 Cal. App. 5th 281, 302.

In addition, a determination that regulatory compliance will be sufficient to prevent significant adverse impacts must be based on a project-specific analysis of potential impacts and the effect of regulatory compliance. In *Californians for Alternatives to Toxics v. Department of Food & Agric.* (2005) 136 Cal. App. 4th 1, the court set aside an EIR for a statewide crop disease control plan because it did not include an evaluation of the risks to the environment and human health from the proposed program but simply presumed that no adverse impacts would occur from use of pesticides in accordance with the registration and labeling program of the California Department of Pesticide Regulation. *See also Ebbetts Pass Forest Watch v Department of Forestry & Fire Protection* (2008) 43 Cal. App. 4th 936, 956 (fact that Department of Pesticide Regulation had assessed environmental effects of certain herbicides in general did not excuse failure to assess effects of their use for specific timber harvesting project). 1-16 Cont.

1. *The DEIR Fails to Support its Findings on Greenhouse Gas Impacts with Substantial Evidence.*

CEQA Guidelines § 15064.4 allow a lead agency to determine the significance of a project's GHG impact via a qualitative analysis (e.g., extent to which a project complies with regulations or requirements of state/regional/local GHG plans), and/or a quantitative analysis (e.g., using model or methodology to estimate project emissions and compare it to a numeric threshold). So too, CEQA Guidelines allow lead agencies to select what model or methodology to estimate GHG emissions so long as the selection is supported with substantial evidence, and the lead agency "should explain the limitations of the particular model or methodology selected for use." CEQA Guidelines § 15064.4(c). 1-17

CEQA Guidelines sections 15064.4(b)(3) and 15183.5(b) allow a lead agency to consider a project's consistency with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

CEQA Guidelines §§ 15064.4(b)(3) and 15183.5(b)(1) make clear qualified GHG reduction plans or CAPs should include the following features:

(1) **Inventory**: Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities (e.g., projects) within a defined geographic area (e.g., lead agency jurisdiction);

(2) **Establish GHG Reduction Goal**: Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;

(3) **Analyze Project Types**: Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;

(4) **Craft Performance Based Mitigation Measures**: Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;

(5) **Monitoring**: Establish a mechanism to monitor the CAP progress toward achieving said level and to require amendment if the plan is not achieving specified levels;

1-17 Cont.

Collectively, the above-listed CAP features tie qualitative measures to quantitative results, which in turn become binding via proper monitoring and enforcement by the jurisdiction—all resulting in real GHG reductions for the jurisdiction as a whole, and the substantial evidence that the incremental contribution of an individual project is not cumulatively considerable.

Here, the DEIR's analysis of greenhouse gas emissions impacts is not supported by substantial evidence for all of the reasons outlined in SWAPE's April 12, 2021 letter regarding their review of the DEIR[5]:

- The DEIR utilized an incorrect and unsubstantiated quantitative analysis of emissions;
- The DEIR incorrectly relied upon an outdated quantitative GHG threshold;

[5] April 12, 2021 SWAPE Letter to Greg Sonstein re Comments on Pacific Coast Commons Specific Plan Project. Attached hereto as Exhibit D.

- The DEIR failed to identify a potentially significant GHG impact; and
- The DEIR failed to consider performance-based standards under CARB's 2017 Scoping Plan, and failed to consider performance-based standards under SCAG's RTP/SCS plan.

(Exhibit D, 20-27.)

Additionally, the DEIR needs to consider and incorporate all of the feasible mitigation measures to reduce identified GHG impacts proposed by SWAPE. (Exhibit D, 27-34.)

1-17 Cont.

2. *The DEIR Fails to Support its Findings on Air Quality Impacts with Substantial Evidence.*

Second, the DEIR's Air Quality analysis is fundamentally flawed and not supported by substantial evidence for all the reasons outlined in SWAPE's comments, including:

- Use of unsubstantiated input parameters to estimate project emissions,
  - Underestimated land use sizes;
  - Failure to model all required demolition;
  - Unsubstantiated changed to acres of grading values;
  - Unsubstantiated changes to material silt content values;
  - Unsubstantiated change to hauling trip numbers;
  - Unsubstantiated changes to architectural and area coating areas;
  - Underestimated operational vehicle trip rates;
  - Unsubstantiated changes to energy use values;
  - Unsubstantiated changes to wastewater treatment system percentages;
  - Incorrect application of construction-related mitigation measures;
  - Incorrect application of mobile-related operational mitigation measures; and
  - Failing to adequately analyze diesel particulate matter health risk emissions and identify a potentially significant health risk impact.

(Exhibit D, 1-19.)

Additionally, as noted above, the DEIR fails to consider or include many feasible mitigation measures proposed by SWAPE to reduce significant air quality impacts.

1-18

(DEIR, 27-34.) The DEIR needs to be revised and recirculated with a substantiated air quality analysis that includes all feasible mitigation measures to reduce impacts. 1-18 Cont.

3. *The DEIR Fails to Support its Findings on Transportation Impacts with Substantial Evidence.*

CEQA Guidelines § 15064.3(b) requires analysis of a Project's vehicle miles traveled (VMT) impacts as part of the environmental document's transportation impacts analysis. According to the DEIR, the OPR technical guidance suggests that projects which have a VMT per capita of 15% or more below existing conditions may indicate a less than significant transportation impact relating to VMT. (DEIR, 4.13-21 - 2.) Assuming then this is the proper methodology, the DEIR concludes that the Project would have a less than significant VMT impact because the project is predicted to exhibit more than a 15% reduction in VMT over VMT per capita for the City as a whole, and the region. (DEIR, 4.13-22.)

The DEIR estimates a VMT per capita of 10.9 based upon the project site's location within TAZ (transportation analysis zone) 21125100—yet, it is not clear that this VMT estimate accounts for trips other than home-based VMT which is traced back to residences.[6] Home-based VMT excludes work trips and other trips not originating from residences in the Project area. Thus, the TAZ estimate is not an accurate reflection of actual (or total) VMT per capita for the TAZ cannot be relied upon to determine VMT impact significance. A home-based VMT analysis is even less supported in the case of a project that includes mixed-use development, as here, such as a hotel and retail uses where home-based VMT estimates will not accurately reflect total VMT. 1-19

The DEIR should be revised and recirculated with a transportation analysis that includes total VMT estimates.

4. *The DEIR Fails to Support its Findings on Hazards and Hazardous Materials Impacts with Substantial Evidence.*

Appendix F of the DEIR (Phase I ESA) identifies numerous potentially hazardous waste sites in and around the Project site. Though some of these sites have received regulatory closure, the DEIR identifies at least one site "which could impact the 1-20

[6] *See, e.g., Transportation Analysis Updates in Santa Clarita* (May 19, 2020), prepared for City of Santa Clarita by Fehr & Peers, p. 15. Available at https://www.santa-clarita.com/Home/ShowDocument?id=18536.

Project site." (DEIR, 4.7-4.) The DEIR also identifies at least three other hazardous material release sites but postulates they would "not likely impact the environmental condition of the Project site. (*Id.*) Additionally, numerous UST violations were identified near the Project site; a gas station has been under ongoing operations since the 1930s which also includes environmental hazard violations for releases of petroleum products; and other multiple sources of PCE and TCE contamination were identified in the Project site area relating to manufacturing operations. (DEIR, 4.7-5.)

Despite all this evidence of potential hazardous substances release and a Phase I ESA of the site or area, the DEIR concludes that there would be no long-term operational impacts involving the release of hazardous materials. (DEIR, 4.7-21.) The City simply cannot rule out a risk to future Project site occupants from release of hazardous materials from all of these known sources without a Phase II ESA. The DEIR admits that ongoing operations of the former 76 gas station indicate a potential for release of hazardous substances, and many sources of PCE and TCE are present in the area that may require mitigation that have not been characterized at the site. This information does not support a conclusion of a less than significant impact without further studies. The DEIR should be revised and recirculated to include a Phase II ESA of the Project site that includes the surrounding area to adequately analyze whether there are potential impacts that may require mitigation. 1-20 Cont.

F. The Project Objectives are Unduly Narrow

Project objectives should not be so narrowly defined that they preclude consideration of reasonable alternatives for achieving the project's underlying purpose. *North Coast Rivers Alliance v Kawamura* (2015) 243 Cal. App. 4th 647, 668. Inconsistency with only some project objectives may not be an appropriate basis to eliminate impact-reducing project alternatives from analysis in an EIR. See CEQA Guidelines § 15126.6(c), (f). The fact that a proposed alternative does not meet all of the Project Objectives is not an appropriate basis to eliminate impact-reducing alternatives from analysis in an EIR. CEQA Guidelines § 15126.6(c), (f). Objectives should be based on the underlying purpose of the project, rather than the specific nature of the proposed project. *Habitat & Watershed Caretakers v City of Santa Cruz* (2013) 213 Cal. App. 4th 1277, 1299 (holding that the project objective of implementing a settlement agreement relating to expansion of a University of California campus was too narrow and too focused on the nature of the Project). 1-21

Here, the EIR provides extremely narrow and specific objectives that essentially only describe the proposed Project, rather than the purpose of the project:

- Objective 1 calls for maintaining existing hotel uses; and
- Objective 5 calls for increasing the efficient use of land by eliminating surface parking lots and providing parking garages that allow for sharing among hotel commercial, and residential land uses.

(DEIR, 3-18.)

Effectively, the above Project objectives so narrowly define the scope of the Project that it curtails any meaningful analysis or consideration of Project alternatives that could substantially reduce the Project's environmental impacts. A revised and recirculated DEIR should include amended Project objectives that do not circumscribe the EIR's Alternatives' analysis. 1-21 Cont.

III. THE PROJECT VIOLATES THE STATE PLANNING AND ZONING LAW AS WELL AS THE CITY'S GENERAL PLAN

A. Background Regarding the State Planning and Zoning Law

Each California city and county must adopt a comprehensive, long-term general plan governing development. *Napa Citizens for Honest Gov. v. Napa County Bd. of Supervisors* (2001) 91 Cal. App.4th 342, 352, citing Gov. Code §§ 65030, 65300. The general plan sits at the top of the land use planning hierarchy (See *DeVita v. County of Napa* (1995) 9 Cal. App. 4th 763, 773), and serves as a "constitution" or "charter" for all future development. *Lesher Communications, Inc. v. City of Walnut Creek* (1990) 52 Cal. App. 3d 531, 540. 1-22

General plan consistency is "the linchpin of California's land use and development laws; it is the principle which infused the concept of planned growth with the force of law." See *Debottari v. Norco City Council* (1985) 171 Cal. App. 3d 1204, 1213.

State law mandates two levels of consistency. First, a general plan must be internally or "horizontally" consistent: its elements must "comprise an integrated, internally consistent and compatible statement of policies for the adopting agency." (See Gov. Code § 65300.5; *Sierra Club v. Bd. of Supervisors* (1981) 126 Cal. App. 3d 698, 704.) A general plan amendment thus may not be internally inconsistent, nor may it cause the general plan as a whole to become internally inconsistent. See *DeVita*, 9 Cal. App. 4th at 796 fn. 12.

Second, state law requires "vertical" consistency, meaning that zoning ordinances and other land use decisions also must be consistent with the general plan. (See Gov. Code § 65860(a)(2) [land uses authorized by zoning ordinance must be "compatible with the objectives, policies, general land uses, and programs specified in the [general] plan."]; see also *Neighborhood Action Group v. County of Calaveras* (1984) 156 Cal. App. 3d 1176, 1184.) A zoning ordinance that conflicts with the general plan or impedes achievement of its policies is invalid and cannot be given effect. See *Lesher*, 52 Cal. App. 3d at 544.

State law requires that all subordinate land use decisions, including conditional use permits, be consistent with the general plan. See Gov. Code § 65860(a)(2); *Neighborhood Action Group*, 156 Cal. App. 3d at 1184. 1-22 Cont.

A project cannot be found consistent with a general plan if it conflicts with a general plan policy that is "fundamental, mandatory, and clear," regardless of whether it is consistent with other general plan policies. See *Endangered Habitats League v. County of Orange* (2005) 131 Cal. App. 4th 777, 782-83; *Families Unafraid to Uphold Rural El Dorado County v. Bd. of Supervisors* (1998) 62 Cal. App. 4th 1332, 1341-42 ("FUTURE").

Moreover, even in the absence of such a direct conflict, an ordinance or development project may not be approved if it interferes with or frustrates the general plan's policies and objectives. See *Napa Citizens*, 91 Cal. App. 4th at 378-79; see also *Lesher*, 52 Cal. App. 3d at 544 (zoning ordinance restricting development conflicted with growth-oriented policies of general plan).

B. <u>The DEIR Fails to Demonstrate Consistency with SCAG's RTP/SCS Plan</u>

Senate Bill No. 375 requires regional planning agencies to include a sustainable communities strategy in their regional transportation plans. Gov. Code § 65080, sub.(b)(2)(B).) CEQA Guidelines § 15125(d) provides that an EIR "shall discuss any inconsistencies between the proposed project and…regional plans. Such regional plans include…regional transportation plans." Thus, CEQA requires analysis of any inconsistencies between the Project and the relevant RTP/SCS plan. 1-23

In September 2008, SB 375 (Gov. Code § 65080(b) et seq.) was instituted to help achieve AB 32 goals through strategies including requiring regional agencies to prepare a Sustainable Communities Strategy ("SCS") to be incorporated into their Regional Transportation Plan ("RTP"). The RTP links land use planning with the regional transportation system so that the region can grow smartly and sustainably, while also demonstrating how the region will meet targets set by CARB that reduce the per capita GHG emission from passenger vehicles in the region.

According to SWAPE's comments, the DEIR failed to consider performance-based standards under the RTP/SCS plan. The DEIR failed to evaluate whether the Project is consistent with per capita GHG emission targets, or daily vehicle miles traveled. (Ex. D, 24.) And according to SWAPE's analysis and conclusion, the Project exceeds both per capita GHG emissions targets and daily VMT per capita—thus, the Project is not consistent with SCAG's RTP/SCS Plan. 1-23 Cont.

C. The DEIR Fails to Demonstrate Consistency with the State Housing Law's Regional Housing Needs Assessment Requirements and the City's Obligations to Fulfill those Requirements in its Housing Element

State law requires that jurisdictions provide their fair share of regional housing needs and adopt a general plan for future growth (California Government Code Section 65300). The California Department of Housing and Community Development (HCD) is mandated to determine state-wide housing needs by income category for each Council of Governments (COG) throughout the state. The housing need is determined based on four broad household income categories: very low (households making less than 50 percent of median family income), low (50 to 80 percent of median family income), moderate (80 to 120 percent of median family income), and above moderate (more than 120 percent of median family income). The intent of the future needs allocation by income groups is to relieve the undue concentration of very low and low-income households in a single jurisdiction and to help allocate resources in a fair and equitable manner. 1-24

CEQA requires the DEIR analyze the Project's consistency with the State's housing goals. CEQA Guidelines section 15125(d) requires that an environmental impact report "discuss any inconsistencies between the proposed project and applicable general plans, specific plans and regional plans. *See also Golden Door Properties, LLC v. County of San Diego* (2020) 50 Cal. App. 5th 467, 543.

A Court "[w]hen reviewing whether a discussion is sufficient to satisfy CEQA, . . . the EIR (1) includes sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises [citation omitted], and (2) makes a reasonable effort to substantively connect a project's air quality impacts to likely health consequences." (*Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502, 510 [citing *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 405.]; see also PRC §§ 21002.1(e), 21003(b).) The Court may determine whether a CEQA environmental document sufficiently discloses information required by CEQA de novo as "noncompliance with the information disclosure provisions" of CEQA is a failure to proceed in a manner required by law. (PRC § 21005(a); see also *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502, 515.)

SCAG is the COG for Los Angeles County and has determined that the City's RHNA for the 6th Cycle allocation period is 189 units for very low income residents, 88 units for low income residents, 84 units for moderate income residents, and 131 unit for above moderate income residents for a total of 492 housing units.[7] 1-24 Cont.

First, the City fails to analyze consistency with the latest RHNA allocation in the DEIR. (DEIR, 4.11-6.) Second, the Project fails to include *any* affordable housing units as part of the Project for residents with income below above moderate. The City is required to meet the housing needs of all of city residents under the state housing law. While the DEIR calls for a provision in a future development agreement to include some affordable housing units, at this stage of the Project, none are included and no development agreement has been drafted.

The DEIR should be revised and recirculated with an affordable housing component.

IV. CONCLUSION

Commenters request that the City deny the Project's proposed Site Plan Review and any other discretionary approvals the City finds necessary and order the revision and recirculation of the Project's environmental impact report to address the aforementioned concerns. 1-25

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[7] SCAG Regional Housing Needs Assessment Final Allocation, 6th Cycle Final RHNA Allocation Plan. Available at https://scag.ca.gov/rhna.

City of El Segundo – Pacific Coast Commons Specific Plan Project
April 12, 2021
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Please contact my Office if you have any questions or concerns.

Sincerely,

Mitchell M. Tsai

Attorneys for Southwest Regional
Council of Carpenters

Attached:

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling (Exhibit A);

Air Quality and GHG Expert Paul Rosenfeld CV (Exhibit B);

Air Quality and GHG Expert Matt Hagemann CV (Exhibit C); and

April 12, 2021 SWAPE Letter to Greg Sonstein re Comments on the Pacific Coast Commons Specific Plan Project (Exhibit D).

1-25
Cont.

EXHIBIT A

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

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March 8, 2021

Mitchell M. Tsai
155 South El Molino, Suite 104
Pasadena, CA 91101

Subject: Local Hire Requirements and Considerations for Greenhouse Gas Modeling

Dear Mr. Tsai,

Soil Water Air Protection Enterprise ("SWAPE") is pleased to provide the following draft technical report explaining the significance of worker trips required for construction of land use development projects with respect to the estimation of greenhouse gas ("GHG") emissions. The report will also discuss the potential for local hire requirements to reduce the length of worker trips, and consequently, reduced or mitigate the potential GHG impacts. 1-26

Worker Trips and Greenhouse Gas Calculations

The California Emissions Estimator Model ("CalEEMod") is a "statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects."[1] CalEEMod quantifies construction-related emissions associated with land use projects resulting from off-road construction equipment; on-road mobile equipment associated with workers, vendors, and hauling; fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads; and architectural coating activities; and paving.[2]

The number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[3]

[1] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[2] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[3] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.

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Specifically, the number and length of vehicle trips is utilized to estimate the vehicle miles travelled ("VMT") associated with construction. Then, utilizing vehicle-class specific EMFAC 2014 emission factors, CalEEMod calculates the vehicle exhaust, evaporative, and dust emissions resulting from construction-related VMT, including personal vehicles for worker commuting.[4]

Specifically, in order to calculate VMT, CalEEMod multiplies the average daily trip rate by the average overall trip length (see excerpt below):

"$VMT_d = \Sigma(\text{Average Daily Trip Rate}_i * \text{Average Overall Trip Length}_i)_n$

Where:

n = Number of land uses being modeled."[5]

Furthermore, to calculate the on-road emissions associated with worker trips, CalEEMod utilizes the following equation (see excerpt below):

"$Emissions_{pollutant} = VMT * EF_{running,pollutant}$

Where:

$Emissions_{pollutant}$ = emissions from vehicle running for each pollutant

VMT = vehicle miles traveled

$EF_{running,pollutant}$ = emission factor for running emissions."[6]

Thus, there is a direct relationship between trip length and VMT, as well as a direct relationship between VMT and vehicle running emissions. In other words, when the trip length is increased, the VMT and vehicle running emissions increase as a result. Thus, vehicle running emissions can be reduced by decreasing the average overall trip length, by way of a local hire requirement or otherwise. 1-26 Cont.

Default Worker Trip Parameters and Potential Local Hire Requirements

As previously discussed, the number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[7] In order to understand how local hire requirements and associated worker trip length reductions impact GHG emissions calculations, it is important to consider the CalEEMod default worker trip parameters. 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.[8] The default number of construction-related worker trips is calculated by multiplying the

[4] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14-15.
[5] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 23.
[6] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[7] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[8] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 1, 9.

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number of pieces of equipment for all phases by 1.25, with the exception of worker trips required for the building construction and architectural coating phases.[9] Furthermore, the worker trip vehicle class is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively."[10] Finally, the default worker trip length is consistent with the length of the operational home-to-work vehicle trips.[11] The operational home-to-work vehicle trip lengths are:

> "[B]ased on the ***location*** and ***urbanization*** selected on the project characteristic screen. These values were ***supplied by the air districts or use a default average for the state***. Each district (or county) also assigns trip lengths for urban and rural settings" (emphasis added).[12]

Thus, the default worker trip length is based on the location and urbanization level selected by the User when modeling emissions. The below table shows the CalEEMod default rural and urban worker trip lengths by air basin (see excerpt below and Attachment A).[13]

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Minimum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

1-26 Cont.

[9] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[10] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[11] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14.
[12] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 21.
[13] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-84 – D-86.

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As demonstrated above, default rural worker trip lengths for air basins in California vary from 10.8- to 19.8-miles, with an average of 16.47 miles. Furthermore, default urban worker trip lengths vary from 10.8- to 14.7-miles, with an average of 11.17 miles. Thus, while default worker trip lengths vary by location, default urban worker trip lengths tend to be shorter in length. Based on these trends evident in the CalEEMod default worker trip lengths, we can reasonably assume that the efficacy of a local hire requirement is especially dependent upon the urbanization of the project site, as well as the project location.

Practical Application of a Local Hire Requirement and Associated Impact

To provide an example of the potential impact of a local hire provision on construction-related GHG emissions, we estimated the significance of a local hire provision for the Village South Specific Plan ("Project") located in the City of Claremont ("City"). The Project proposed to construct 1,000 residential units, 100,000-SF of retail space, 45,000-SF of office space, as well as a 50-room hotel, on the 24-acre site. The Project location is classified as Urban and lies within the Los Angeles-South Coast County. As a result, the Project has a default worker trip length of 14.7 miles.[14] In an effort to evaluate the potential for a local hire provision to reduce the Project's construction-related GHG emissions, we prepared an updated model, reducing all worker trip lengths to 10 miles (see Attachment B). Our analysis estimates that if a local hire provision with a 10-mile radius were to be implemented, the GHG emissions associated with Project construction would decrease by approximately 17% (see table below and Attachment C).

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO_2e)	3,623
Amortized Construction GHG Emissions (MT CO_2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized Construction GHG Emissions (MT CO_2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

As demonstrated above, by implementing a local hire provision requiring 10 mile worker trip lengths, the Project could reduce potential GHG emissions associated with construction worker trips. More broadly, any local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

This serves as an example of the potential impacts of local hire requirements on estimated project-level GHG emissions, though it does not indicate that local hire requirements would result in reduced construction-related GHG emission for all projects. As previously described, the significance of a local hire requirement depends on the worker trip length enforced and the default worker trip length for the project's urbanization level and location.

1-26 Cont.

[14] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-85.

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Disclaimer

SWAPE has received limited discovery. 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.

1-26 Cont.

Sincerely,

M Hagemann

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

Paul Rosenfeld

Paul E. Rosenfeld, Ph.D.

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EXHIBIT B

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

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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 unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. 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. 1-27

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, 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 dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial 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

1-27 Cont.

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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.

1-27 Cont.

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 Conference*. Lecture conducted from Indianapolis, Maryland.

1-27 Cont.

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. 1-27 Cont.

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 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 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

1-27
Cont.

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 Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
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

1-27
Cont.

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 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 United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 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 of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs*, vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

1-27 Cont.

Paul E. Rosenfeld, Ph.D. Page **10** of **10** June 2019

EXHIBIT C

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
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
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

1-27 Cont.

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. 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) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- 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 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, 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 industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- 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.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

1-27 Cont.

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. 1-27 Cont.

- 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.

1-27 Cont.

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. 1-27 Cont.
- 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.

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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 taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

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.

6

1-27 Cont.

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.

1-27 Cont.

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. 1-27 Cont.

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.

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1-27 Cont.

Other Experience:

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

EXHIBIT D

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April 12, 2021

Greg Sonstein, Esq.
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155 South El Molino Avenue Suite 104
Pasadena, CA 91101

Subject: **Comments on the Pacific Coast Commons Specific Plan (SCH No. 2020050508)**

Dear Mr. Sonstein,

We have reviewed the February 2021 Draft Environmental Impact Report ("DEIR") for the Pacific Coast Commons Specific Plan ("Project") located in the City of El Segundo ("City"). The Project proposes to the adoption of a Specific Plan that would allow for the continued operation of 596 hotel rooms and construction of 263 housing units, 11,252-SF of commercial/retail uses, and 792 parking stalls on the 6.385-acre site. 1-28

Our review concludes that the DEIR fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated EIR should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the surrounding environment.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The DEIR's air quality analysis relies on emissions calculated with CalEEMod.2016.3.2 (p. 4.2-1).[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 1-29

[1] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.

be justified by substantial evidence. Once all of the 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 Appendix C-1, "CalEEMod Outputs," and Appendix C-2, "Health Risk Assessment Report," to the DEIR, we found that several model inputs were not consistent with information disclosed in the DEIR. As a result, the Project's construction and operational emissions are underestimated. As a result, an updated 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. 1-29 Cont.

Underestimated Land Use Sizes

According to the DEIR, the Project proposes to construct 327,021-SF of residential development, 11,252-SF of commercial/retail uses, and 792 parking spaces (p. 3-2). However, review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" and "Pacific Coast Commons Specific Plan Project Mit" models include only 314,659-SF of residential space, 11,000-SF of commercial/retail space, and 763 parking spaces (see excerpt below) (Appendix C-1, pp. 3, 51, 95; Appendix C-2, pp. 33).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
Enclosed Parking with Elevator	763.00	Space	0.00	305,200.00
Other Asphalt Surfaces	12.65	1000sqft	0.00	12,650.00
High Turnover (Sit Down Restaurant)	3.70	1000sqft	0.00	3,700.00
Apartments Mid Rise	263.00	Dwelling Unit	0.00	314,659.00
Regional Shopping Center	7.30	1000sqft	5.35	7,300.00

1-30

As you can see in the excerpt above, the proposed residential, commercial/retail, and parking land uses are underestimated by 12,362-SF, 252-SF, and 29 spaces, respectively. These underestimations present an issue, as the land use type and size features are used throughout CalEEMod to determine default variable and emission factors that go into the model's calculations.[2] For example, the square footage of a land use is used for certain calculations such as determining the wall space to be painted (i.e., VOC emissions from architectural coatings) and volume that is heated or cooled (i.e., energy impacts). Thus, by underestimating the sizes of the proposed residential, commercial/retail, and parking land uses, the models underestimate the Project's emissions and should not be relied upon to determine Project significance.

[2] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01_user-39-s-guide2016-3-1.pdf?sfvrsn=2, p. 17

2

Failure to Model All Required Demolition

According to the CalEEMod User's Guide, "[h]aul trips are based on the amount of material that is demolished, imported or exported assuming a truck can handle 16 cubic yards of material."[3] Therefore, the air model calculates a default number of hauling trips based upon the amount of demolition material inputted into the model. According to the DEIR:

> "During Phase 1, it was assumed that *41,660-SF of buildings* and *6,000-SF of pavement* would require demolition. For Phases 2 and 3, it was assumed that a total of *131,000 square feet of pavement* would require demolition" (p. 4.2-25).

As such, the models should have included at least 178,660-SF of demolition.[4] When correctly inputting 178,660-SF of building demolition, the model calculates a default demolition hauling trip number of 812 trips. However, review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" and the "Pacific Coast Commons Specific Plan Project Mit" models include only 381 total default hauling trips, which were artificially increased to 400 hauling trips (see excerpts below) (Appendix C-1, pp. 13, 61, 105; Appendix C-2, pp. 42). 1-31

Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	HaulingTripNumber	189.00	200.00
tblTripsAndVMT	HaulingTripNumber	192.00	200.00

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number
Demolition - Phase 1	6	80.00	20.00	200.00
Site Preparation - Phase 1	7	50.00	10.00	0.00
Grading - Phase 1	6	80.00	10.00	0.00
Building Construction - Phase 1	9	120.00	30.00	0.00
Paving - Phase 1	6	40.00	10.00	0.00
Architectural Coating - Phase 1	1	80.00	20.00	0.00
Demolition - Phases 2 and 3	6	100.00	40.00	200.00
Site Preparation - Phases 2 and 3	7	120.00	20.00	0.00
Grading - Phases 2 and 3	6	160.00	20.00	1,720.00
Building Construction - Phases 2 and 3	9	300.00	60.00	0.00
Paving - Phases 2 and 3	6	80.00	20.00	0.00
Architectural Coating - Phases 2 and 3	1	240.00	40.00	0.00

[3] http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14
[4] Calculated: (41,660-SF of buildings demolition) + (6,000-SF of pavement demolition) + (131,000-SF of pavement demolition) = 178,660-SF of demolition.

3

As you can see in the excerpts above, the ***default*** number of demolition hauling trips was underestimated by 431 trips.[5] As such, the models fail to include the total amount of demolition required for the Project.

This underestimation presents an issue, as the total amount of demolition material is used by CalEEMod to determine emissions associated with this phase of construction; the three primary operations that generate dust emission during the demolition phase are mechanical or explosive dismemberment, site removal of debris, and on-site truck traffic on paved and unpaved road.[6] By failing to include the total amount of required demolition, the models underestimate emissions associated with fugitive dust, site removal, as well as exhaust from hauling trucks traveling to and from the site, and should not be relied upon to determine the significance of the Project's air quality impacts. 1-31 Cont.

Unsubstantiated Changes to Acres of Grading Values

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" and the "Pacific Coast Commons Specific Plan Project Mit" models include reductions to the default acres of grading values (see excerpt below) (Appendix C-1, pp. 6, 54, 98; Appendix C-2, pp. 36).

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	21.50	0.74
tblGrading	AcresOfGrading	21.00	3.14

As you can see in the excerpt above, the acres of grading values were reduced by approximately 97%, from the default value of 21.5- to 0.74-acres, and 85%, from the default value of 21- to 3.14-acres. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[7] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "17,000 CY of soil export during Phase 2" (Appendix C-1, pp. 4, 52, 96; Appendix C-2, pp. 34). Furthermore, regarding the acres of grading value, the DEIR states: 1-32

> "During grading activities, fugitive dust can be generated from the movement of dirt on the Project site. CalEEMod estimates dust from dozers moving dirt around, dust from graders or scrapers leveling the land, and loading or unloading dirt into haul trucks. Each of those activities is calculated differently in CalEEMod, ***based on the number of acres traversed by the grading equipment***" (emphasis) (p. 4.2-23).

However, these reductions remain unsupported for two reasons. First, the justification provided by the "User Entered Comments & Non-Default Data" table fails to address the revised acres of grading value. Second, according to the CalEEMod User's Guide:

> "[T]he dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with

[5] Calculated: (812 demolition hauling trips) – (381 trips demolition hauling trips) = 431 demolition hauling trips.
[6] CalEEMod User Guide, Appendix A, p. 11, *available at:* http://www.caleemod.com/
[7] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

4

> equipment may be required. The acres is based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday."[8]

Thus, as the dimensions of the Project site have no impact on the acres of grading value, and the DEIR fails to substantiate this change, we cannot verify the revised acres of grading values. 1-32 Cont.

These unsubstantiated reductions present an issue, as CalEEMod uses the acres of grading value to estimate the dust emissions associated with grading.[9] Thus, by including unsubstantiated reductions to the default acres of grading values, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Material Moisture Content Bulldozing Values

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" and the "Pacific Coast Commons Specific Plan Project Mit" models include several changes to the default material moisture content bulldozing values (see excerpt below) (Appendix C-1, pp. 6, 54, 98; Appendix C-2, pp. 36).

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialMoistureContentBulldozing	7.90	17.00
tblGrading	MaterialMoistureContentBulldozing	7.90	17.00
tblGrading	MaterialMoistureContentBulldozing	7.90	17.00

As you can see in the excerpt above, the material moisture content bulldozing values were increased from the default value of 7.9% to 17%. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[10] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "17,000 CY of soil export during Phase 2" (Appendix C-1, pp. 4, 52, 96; Appendix C-2, pp. 34). 1-33

However, this change remains unsupported for two reasons. First, the justification provided by the "User Entered Comments & Non-Default Data" table fails to address the revised material moisture content bulldozing values. Second, the DEIR and associated documents fail to mention or justify these changes whatsoever.

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[8] "Appendix A Calculation Details for CalEEMod." *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 9.
[9] "Appendix A Calculation Details for CalEEMod." *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 9.
[10] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

These unsubstantiated changes present an issue, as CalEEMod uses the material moisture content bulldozing values to calculate the dust emission factor associated with bulldozing.[11] Specifically, CalEEMod utilizes the following equations:[12]

$$EF_{TSP} = \frac{C_{TSP} \times s^{1.2}}{M^{1.3}}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

$$EF_{PM15} = \frac{C_{PM15} \times s^{1.5}}{M^{1.4}}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

Where:
- *EF* = emission factor (lb/hr)
- *C* = arbitrary coefficient used by AP-42
- *M* = material moisture content (%)
- *S* = material silt content (%)
- *F* = scaling factor

As demonstrated above, there is an inverse relationship between material moisture content and dust emission factors. In other words, ***when the material moisture content percentage increases, the dust emission factor decreases***. As such, by including unsubstantiated increases to the material moisture content values, the models may underestimate the emissions associated with bulldozing. Thus, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

1-33 Cont.

Unsubstantiated Changes to Material Silt Content Values

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" and the "Pacific Coast Commons Specific Plan Project Mit" models include several reductions to the default material silt content values (see excerpt below) (Appendix C-1, pp. 6, 54, 98; Appendix C-2, pp. 36).

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialSiltContent	6.90	3.30
tblGrading	MaterialSiltContent	6.90	3.30
tblGrading	MaterialSiltContent	6.90	3.30
tblGrading	MaterialSiltContent	6.90	3.30

1-34

As you can see in the excerpt above, the material silt content values were increased from the default value to 6.9% to 3.3%. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[13] According to the "User Entered Comments & Non-Default Data" table, the

[11] "Appendix A Calculation Details for CalEEMod." *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 10.
[12] "Appendix A Calculation Details for CalEEMod." *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 10.
[13] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

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justification provided for these changes is: "17,000 CY of soil export during Phase 2" (Appendix C-1, pp. 4, 52, 96; Appendix C-2, pp. 34).

However, this change remains unsupported for two reasons. First, the justification provided by the "User Entered Comments & Non-Default Data" table fails to address the revised material silt content values. Second, the DEIR and associated documents fail to mention or justify these changes whatsoever.

These unsubstantiated changes present an issue, because CalEEMod uses the material silt content values to calculate the dust emission factor associated with bulldozing.[14] Specifically, CalEEMod utilizes the following equations:[15]

$$EF_{TSP} = \frac{C_{TSP} \times s^{1.2}}{M^{1.3}} \text{, and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

$$EF_{PM15} = \frac{C_{PM15} \times s^{1.5}}{M^{1.4}} \text{, and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

Where:

EF = emission factor (lb/hr)
C = arbitrary coefficient used by AP-42
M = material moisture content (%)
S = material silt content (%)
F = scaling factor

As demonstrated above, there is a direct relationship between material silt content and dust emission factors. In other words, ***when the material silt content percentage decreases, the dust emission factor decreases as well***. As such, by including unsubstantiated increases to the material silt content values, the models may underestimate the emissions associated with bulldozing. Thus, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance. 1-34 Cont.

Unsubstantiated Changes to Hauling Trip Numbers

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" model includes several changes to the default hauling trip numbers (see excerpt below) (Appendix C-1, pp. 6-7, 54, 98). 1-35

[14] "Appendix A Calculation Details for CalEEMod." *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 10.
[15] "Appendix A Calculation Details for CalEEMod." *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 10.

7

Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	HaulingTripNumber	189.00	200.00
tblTripsAndVMT	HaulingTripNumber	192.00	200.00
tblTripsAndVMT	HaulingTripNumber	2,125.00	1,720.00

As you can see in the excerpt above, the number of hauling trips was collectively reduced by 386 trips, from the cumulative default value of 2,506 trips to 2,120 trips.[16] As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[17] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is: "Updated per applicant" (Appendix C-1, pp. 4, 52, 96). Furthermore, the DEIR states:

> "Haul truck trips during the demolition and grading phases were based on demolition and earthwork quantities provided" (p. 4.2-25).

1-35 Cont.

However, these justifications are insufficient, as the DEIR and associated documents fail to provide the calculations or explain how the revised hauling trip numbers were derived "based on demolition and earthwork quantities." As such, we cannot verify the revised hauling trip numbers.

These unsubstantiated changes present an issue, as CalEEMod uses number of hauling trips to estimate the construction-related emissions associated with on-road vehicles.[18] Thus, by including unsubstantiated changes to the default hauling trip numbers, the model may underestimate the Project's mobile-source construction-related emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Architectural and Area Coating Areas

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" and "Pacific Coast Commons Specific Plan Project Mit" models include several reductions to the default architectural and area coating areas (see excerpt below) (Appendix C-1, pp. 5, 52-53, 96-97; Appendix C-2, pp. 34-35).

1-36

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	212,395.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	212,395.00	212,213.00
tblArchitecturalCoating	ConstArea_Residential_Interior	637,184.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	637,184.00	636,338.00
tblAreaCoating	Area_Parking	19071	1959

[16] Calculated: (189 + 192 + 2,125 default hauling trips) – (200 + 200 + 1,720 revised hauling trips) = 386 net decrease in hauling trips.
[17] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[18] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 34.

8

As you can see in the excerpt above, the architectural coating areas were reduced by 850,607-SF, from the cumulative default value of 1,699,158- to 848,551-SF;[19] and the area coating area for the proposed parking land use was reduced by 17,112-SF, from the default value of 19,701- to 1,959-SF.[20] As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[21] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is: "Updated SF per phase" (Appendix C-1, pp. 4, 52, 96; Appendix C-2, pp. 34). However, these reductions remain unsupported for two reasons.

First, the DEIR and associated documents fail to mention or justify the changes to the construction-related architectural coating areas whatsoever. As such, we cannot verify the revised architectural coating areas.

Second, regarding the operational area coating areas, the DEIR states:

> "*Consistent with CalEEMod defaults*, it is assumed that the residential surface area for painting equals 2.7 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating. For nonresidential land uses (e.g., retail, community, and commercial areas), it is assumed that the surface area for painting equals 2.0 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating. *For the parking garage, the architectural coating area is assumed to be 6% of the total square footage, consistent with the supporting CalEEMod studies provided as an appendix to the CalEEMod User's Guide*" (emphasis added) (p. 4.2-28).

1-36 Cont.

As demonstrated above, the DEIR claims that the Project's area coating areas are consistent with CalEEMod defaults. Thus, as the area coating area was reduced from the default value, the change is unsubstantiated and inconsistent with the information provided in the DEIR. As such, we cannot verify the revised area coating area.

These unsubstantiated reductions present an issue, as CalEEMod uses architectural and area coating areas to calculate ROG emissions associated with painting and reapplication.[22] Thus, by including unsubstantiated reductions to the default architectural and area coating areas, the models may underestimate the Project's area-source emissions and should not be relied upon to determine Project significance.

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[19] Calculated: (212,395-SF + 212,395-SF + 637,184-SF + 637,184-SF default architectural coating areas) – (212,213-SF + 636,338-SF revised architectural coating areas) = 850,607-SF net decrease in architectural coating areas.
[20] 19,70-SF default area coating area –1,959-SF revised area coating area = 17,112-SF net decrease inn area coating area.
[21] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[22] CalEEMod User Guide, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 35, 42.

9

Underestimated Operational Vehicle Trip Rates

According to the Traffic Impact Analysis ("TIA"), provided in Appendix J-1 to the DEIR, the Project is expected to generate approximately 2,517 average daily vehicle trips (see excerpt below) (p. 30, Table 4).

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Daily
			Daily	AM Peak Hour			PM Peak Hour			
				Rate	In%	Out%	Rate	In%	Out%	
PROPOSED PROJECT										
Pacific Coast Commons North										
Residential Units [b]	221	143 DU	Equation	Equation	24%	76%	Equation	61%	39%	778
Less: Transit/Walk/Bike			*5%*	*5%*			*5%*			*(39)*
Total Driveway Trips										739
Retail	820	2.223 ksf	37.75	0.94	62%	38%	3.81	48%	52%	84
Less: Transit/Walk/Bike			*5%*	*5%*			*5%*			*(4)*
Total Driveway Trips										80
Fairfield Parking										
Retail	820	3.273 ksf	37.75	0.94	62%	38%	3.81	48%	52%	124
Less: Transit/Walk/Bike			*5%*	*5%*			*5%*			*(6)*
Total Driveway Trips										118
Pacific Coast Commons South										
Residential Units [b]	221	120 DU	Equation	Equation	24%	76%	Equation	61%	39%	652
Less: Transit/Walk/Bike			*5%*	*5%*			*5%*			*(33)*
Total Driveway Trips										619
Retail	820	2.056 ksf	37.75	0.94	62%	38%	3.81	48%	52%	78
Less: Transit/Walk/Bike			*5%*	*5%*			*5%*			*(4)*
Total Driveway Trips										74
Fast Casual Restaurant [c]	930	3.700 ksf	315.17	14.13	55%	45%	14.13	55%	45%	1,166
Less: Transit/Walk/Bike			*5%*	*5%*			*5%*			*(58)*
Total Driveway Trips										1,108
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(221)*
Net External Vehicle Trips										887
TOTAL PROJECT EXTERNAL VEHICLE TRIPS										2,517

1-37

As such, the models should have included trip rates that reflect the number of average daily operational vehicle trips estimated by the TIA. However, review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" model includes only 2,506.08 weekday and 2,271.19 Saturday vehicle trips (see excerpt below) (Appendix C-1, pp. 42, 90, 134).

Land Use	Average Daily Trip Rate		
	Weekday	Saturday	Sunday
Apartments Mid Rise	1,357.08	1,304.48	1196.65
Enclosed Parking with Elevator	0.00	0.00	0.00
High Turnover (Sit Down Restaurant)	887.00	1,104.78	919.71
Other Asphalt Surfaces	0.00	0.00	0.00
Regional Shopping Center	262.00	306.60	154.83
Total	2,506.08	2,715.86	2,271.19

As you can see in the excerpt above, the weekday and Sunday trip numbers are underestimated by approximately 11- and 246-trips, respectively. As such, the trip rates inputted into the proposed land use models are underestimated and inconsistent with the information provided by the TIA.

10

These inconsistencies present an issue, as CalEEMod uses the operational vehicle trip rates to calculate the emissions associated with the Project's operational on-road vehicles.[23] Thus, by including underestimated operational vehicle trip rates, the model underestimates the Project's mobile-source operational emissions and should not be relied upon to determine Project significance. 1-37 Cont.

Unsubstantiated Changes to Energy Use Values

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" model includes several reductions to the default energy use values (see excerpt below) (Appendix C-1, pp. 5-6, 53, 97).

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	179.76	176.16
tblEnergyUse	T24E	3.92	3.50
tblEnergyUse	T24E	8.71	7.78
tblEnergyUse	T24E	2.93	2.62
tblEnergyUse	T24NG	5,911.46	5,615.89
tblEnergyUse	T24NG	78.56	77.77
tblEnergyUse	T24NG	0.95	0.94

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[24] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is: "Assume compliance with 2019 Title 24 Standards" (Appendix C-1, pp. 4, 52, 96). Furthermore, regarding 2019 Title 24 Standards, the DEIR states: 1-38

> "CalEEMod assumes compliance with the 2016 Title 24 Building Energy Efficiency Standards. The default values were updated to reflect the more stringent 2019 Title 24 Building Energy Efficiency Standards, which became effective on January 1, 2020" (p. 4.2-28).

However, these justifications are insufficient. Simply because the 2019 Title 24 standards ***expect*** a reduction in building energy consumption does not ***guarantee*** that these reductions would be implemented locally on the Project site. Absent additional information demonstrating that these reductions would be achieved through the implementation, monitoring, and enforcement of energy-related mitigation measures, we are unable to verify the revised energy use values inputted into the model.

These unsubstantiated reductions present an issue, as CalEEMod uses the energy use values to calculate the Project's emissions associated with building electricity and non-hearth natural gas usage.[25] By including unsubstantiated changes to the default energy use values, the model may underestimate the Project's energy-source operational emissions and should not be relied upon to determine Project significance.

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[23] "CalEEMod User Guide." CAPCOA, November 2017, *available at:* http://www.caleemod.com/, p. 35.
[24] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[25] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 43

11

Unsubstantiated Changes to Wastewater Treatment System Percentages

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" model includes several manual changes to the default wastewater system percentages (see excerpt below) (Appendix C-1, pp. 8, 55-56, 99-100).

Table Name	Column Name	Default Value	New Value
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

As you can see in the excerpt above, the model assumes that the Project's wastewater would be treated 100% aerobically. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[26] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is: "Assume 100% aerobic" (Appendix C-1, pp. 4, 52, 96). However, these changes remain unsupported. According to the DEIR: 1-39

> "Water consumption estimates for both indoor and outdoor water use and *associated electricity consumption from water use and wastewater generation were estimated using default values in CalEEMod*" (p. 4.6-27).

As demonstrated above, the DEIR claims that the electricity consumption from wastewater generation was estimated using the CalEEMod default values. Thus, the changes to the wastewater treatment system percentages are unsubstantiated and inconsistent with the information provided in the DEIR. As such, we cannot verify the revised values.

These inconsistencies present an issue, as each type of wastewater treatment system is associated with different GHG emission factors, which are used by CalEEMod to calculate the Project's total GHG emissions.[27] Thus, by including unsubstantiated changes to the default wastewater treatment system percentages, the model may underestimate the Project's GHG emissions and should not be relied upon to determine Project significance.

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[26] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[27] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 45.

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Incorrect Application of Construction-Related Mitigation Measures

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" model includes the following construction-related mitigation measures (see excerpt below) (Appendix C-1, pp. 14, 62, 106):

3.1 Mitigation Measures Construction

Replace Ground Cover
Water Exposed Area

Furthermore, review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project Mit" model includes the following construction-related mitigation measure (see excerpt below) (Appendix C-2, pp. 43):

3.1 Mitigation Measures Construction

Water Exposed Area

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[28] According to the "User Entered Comments and Non-Default Data" table for the "Pacific Coast Commons Specific Plan Project" model, the justification provided for the inclusion of these measures is: "Water three times daily and replace ground cover" (Appendix C-1, pp. 4, 52, 96). However, no justification was provided by the "User Entered Comments and Non-Default Data" table for the "Pacific Coast Commons Specific Plan Project Mit" model. Furthermore, the DEIR states: 1-40

> "The proposed Project would be required to comply with SCAQMD Rule 403 to control dust emissions generated during the grading activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites three times per day depending on weather conditions" (p. 4.2-34).

However, the inclusion of the above-mentioned construction-related mitigation measures remains unsupported. Simply because the DEIR states that the Project would comply with SCAQMD Rule 403 does not justify the inclusion of the above-mentioned construction-related mitigation measures in the models. According to the Association of Environmental Professionals ("AEP") *CEQA Portal Topic Paper* on mitigation measures:

> "By definition, *mitigation measures are not part of the original project design*. Rather, mitigation measures are actions taken by the lead agency to reduce impacts to the environment resulting from the original project design. Mitigation measures are identified by the lead agency after the

[28] CalEEMod User Guide, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 2, 9.

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> project has undergone environmental review and are ***above-and-beyond existing laws, regulations, and requirements*** that would reduce environmental impacts" (emphasis added).[29]

1-40 Cont.

As you can see in the excerpt above, mitigation measures "are not part of the original project design" and are intended to go "above-and-beyond" existing regulatory requirements. As such, the inclusion of these measures, based solely on the Project's compliance with SCAQMD Rule 403, is unsubstantiated. By including construction-related mitigation measures without properly committing to their implementation, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

1-41

Incorrect Application of Mobile-Related Operational Mitigation Measures

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" model includes the following mobile-, water-, and waste-related operational mitigation measures (see excerpt below) (Appendix C-1, pp. 42, 47, 49, 90, 134):

Mobile-Related:

4.1 Mitigation Measures Mobile

Improve Destination Accessibility
Increase Transit Accessibility
Improve Pedestrian Network

Water-Related:

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Waste-Related:

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[30] According to the "User Entered Comments and Non-Default Data" table, the justifications provided for the inclusion of the mobile-, water-, and waste-related measures are: "Increase transit accessibility (0.2 miles) and improve pedestrian network," "Reduce water consumption by 20% per CalGreen," and "Assume 50% waste disposed per AB 939" (Appendix C-1, pp. 4, 52, 96). However, the inclusion of these operational mitigation measures remains unsupported for three reasons.

[29] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 5.
[30] CalEEMod User Guide, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 2, 9.

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First, the DEIR fails to mention or justify the inclusion of the above-mentioned operational mitigation measures.

Second, the inclusion of these operational mitigation measures, based on the Project's compliance with existing policies and regulations, is unsupported. As previously stated, according to the AEP *CEQA Portal Topic Paper* on mitigation measures:

> "By definition, ***mitigation measures are not part of the original project design***. Rather, mitigation measures are actions taken by the lead agency to reduce impacts to the environment resulting from the original project design. Mitigation measures are identified by the lead agency after the project has undergone environmental review and are ***above-and-beyond existing laws, regulations, and requirements*** that would reduce environmental impacts" (emphasis added).[31]

As you can see in the excerpt above, mitigation measures "are not part of the original project design" and are intended to go "above-and-beyond" existing regulatory requirements. As such, the inclusion of these measures, based solely on the Project's compliance with existing policies and regulations, is unsubstantiated.

Third, AEP guidance states:

> "While not "mitigation", a good practice is ***to include those project design feature(s) that address environmental impacts in the mitigation monitoring and reporting program (MMRP)***. Often the MMRP is all that accompanies building and construction plans through the permit process. If the design features are not listed as important to addressing an environmental impact, ***it is easy for someone not involved in the original environmental process to approve a change to the project that could eliminate one or more of the design features without understanding the resulting environmental impact***" (emphasis added).[32]

As you can see in the excerpts above, design features that are not formally included as mitigation measures may be eliminated from the Project's design altogether. Thus, as the above-mentioned mobile-, water-, and waste-related operational measures are not formally included as mitigation measures, we cannot guarantee that they would be implemented, monitored, and enforced on the Project site. As a result, the inclusion of the above-mentioned operational mitigation measures in the model is incorrect. By including several operational mitigation measures without properly committing to their implementation, the model may underestimate the Project's operational emissions and should not be relied upon to determine Project significance. 1-41 Cont.

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The DEIR concludes that the proposed Project would result in a less-than-significant health risk impact based on a quantified construction health risk analysis ("HRA"). Specifically, the DEIR estimates that 1-42

[31] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 5.
[32] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 6.

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Project construction would result in a mitigated excess cancer risk of 4.23 in one million, which would not exceed the threshold of 10 in one million (see excerpt below) (p. 4.2-38, Table 4.2-13).

Table 4.2-13. Summary of Maximum Cancer and Chronic Health Risks - Mitigated

Impact Analysis	Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Maximally Exposed Individual Resident					
Construction HRA	Cancer Risk	Per Million	4.23	10	Less than Significant
	Chronic Hazard Index	Index Value	0.002	1.0	Less than Significant

Source: See Appendix C-2 for complete results.
Notes: CEQA = California Environmental Quality Act; HRA = Health Risk Assessment

However, the DEIR's evaluation of the Project's potential health risk impacts, as well as the less-than-significant impact conclusion, is incorrect for three reasons.

First, the DEIR's construction HRA is incorrect, as it relies upon an exhaust PM_{10} estimate from a flawed air model (Appendix C-2, p. 9). As previously discussed, when we reviewed the Project's CalEEMod output files, provided in the CalEEMod Outputs as Appendix C-1 and the HRA Report as Appendix C-2 to the DEIR, we found that several of the values inputted into the model are not consistent with information disclosed in the DEIR and associated documents. As a result, the construction HRA utilizes an underestimated diesel particulate matter ("DPM") concentration to calculate the cancer risk associated with Project construction. As such, the DEIR underestimates the Project's construction-related cancer risk and should not be relied upon to determine Project significance.

Second, the DEIR fails to evaluate the Project's operational toxic air contaminants ("TACs") and associated health risk impacts. This is incorrect, as the TIA indicates that the proposed land uses are expected to generate approximately 2,517 average daily vehicle trips, which will generate additional exhaust emissions and continue to expose nearby sensitive receptors to DPM emissions (p. 30, Table 4). The DEIR fails to discuss the potential TACs associated with Project operation or indicate the concentrations at which such pollutants would trigger adverse health effects. Without making a reasonable effort to connect the Project's operational TAC emissions to the potential health risks posed to nearby receptors, the DEIR is inconsistent with CEQA's requirement to correlate the increase in emissions generated by the Project with the potential adverse impacts on human health.

1-42 Cont.

Third, the Office of Environmental Health Hazard Assessment ("OEHHA"), the organization responsible for providing guidance on conducting HRAs in California, released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015, as referenced by HRA Report (Appendix C-2, p. 7).[33] The OEHHA document recommends that exposure from projects lasting more than 6 months be evaluated for the duration of the project and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident ("MEIR").[34] Even though we were not provided with the expected lifetime of

[33] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/hotspots2015.html

[34] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-6, 8-15

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the Project, we can reasonably assume that the Project will operate for at least 30 years, if not more. Therefore, we recommend that health risk impacts from Project operation also be evaluated, as a 30-year exposure duration vastly exceeds the 6-month requirement set forth by OEHHA. This recommendation reflects the most recent state health risk policies, and as such, we recommend that an analysis of health risk impacts posed to nearby sensitive receptors from Project operation be included in an updated EIR for the Project.

Fourth, while the DEIR includes an HRA evaluating the potential health risk impacts posed by Project construction to nearby, existing receptors, the HRA fails to evaluate the ***cumulative*** lifetime cancer risk to nearby, existing receptors as a result of all phases of Project ***construction and operation together***. According to OEHHA guidance, as referenced by the HRA Report, "the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk at the receptor location" (Appendix C-2, p. 7).[35] However, the DEIR's HRA fails to sum each age bin to evaluate the total cancer risk over the course of Project construction and operation. This is incorrect and, thus, an updated EIR should be prepared to quantify the cumulative excess cancer risk posed by Project construction and operation to nearby, existing receptors, and compare it to the SCAQMD threshold of 10 in one million.

Screening-Level Assessment Indicates a Potentially Significant Health Risk Impact

1-42 Cont.

In order to conduct our screening-level risk assessment we relied upon AERSCREEN, which is a screening level air quality dispersion model.[36] The model replaced SCREEN3, and AERSCREEN is included in the OEHHA[37] and the California Air Pollution Control Officers Associated (CAPCOA)[38] guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs"). 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 operational health risk impact to sensitive receptors using the annual PM_{10} exhaust estimates from the DEIR's annual CalEEMod output files, consistent with the HRA Report's methodology (Appendix C-2, p. 9). Consistent with recommendations set forth by OEHHA, we used a residential exposure duration of 30 years, starting from the 3rd trimester stage of life. Subtracting the 1,034-day construction period from the total residential duration of 30 years, we assumed that after Project construction, the sensitive receptor would be exposed to the Project's operational DPM for an additional 27.17 years, approximately. The DEIR's CalEEMod model indicates that operational activities will generate approximately 87 pounds of DPM per year of operation. The AERSCREEN model relies on a continuous average emission rate to simulate maximum downward

[35] "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
[36] U.S. EPA (April 2011) AERSCREEN Released as the EPA Recommended Screening Model, http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf
[37] Supra, fn 20.
[38] CAPCOA (July 2009) Health Risk Assessments for Proposed Land Use Projects, http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.

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concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over Project operation, we calculated an average DPM emission rate by the following equation.

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{87.4\ lbs}{365\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.00126\ g/s}$$

Using this equation, we estimated an operational emission rate of 0.00126 g/s. Operation was simulated as a 6.39-acre rectangular area source in AERSCREEN, with dimensions of 256 meters by 101 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 AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project Site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant to be estimated by multiplying the single-hour concentration by 10%.[39] According to the HRA Report, the closest residential receptors are located 25 feet west of the Project site (Appendix C-2, p. 1). However, review of the AERSCREEN output files demonstrates that the *maximally* exposed receptor is located approximately 125 meters from the Project site. Thus, for Project operation, the single-hour concentration at the MEIR estimated by AERSCREEN is approximately 1.937µg/m^3 DPM at approximately 125 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.1937 µg/m^3 for Project operation at the MEIR. 1-42 Cont.

We calculated the excess cancer risk to the MEIR using applicable HRA methodologies prescribed by OEHHA. Consistent with the construction period of 1,034 days inputted into the DEIR's CalEEMod model, the annualized average concentration for Project operation was used for the remaining 13.42 years of the child stage of life (2 - 16 years) and the entire adult stage of life (16 – 30 years).

Consistent with the HRA Report's methodology, we used Age Sensitivity Factors ("ASFs") to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution (Appendix C-2, p. 7). When applying ASFs, the quantified cancer risk should be multiplied by a factor of ten during the third trimester of pregnancy and during the first two years of life (infant), as well as multiplied by a factor of three during the child stage of life (2 – 16 years). Furthermore, in accordance with the guidance set forth by OEHHA, we used the 95th percentile breathing rates for infants.[40] Finally, according to SCAQMD guidance, we used a Fraction of Time At Home ("FAH") Value of 1 for the 3rd trimester and

[39] U.S. EPA (October 1992) Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised, http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf.

[40] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act," July 2018, *available at:* http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588supplementalguidelines.pdf, p. 16.
"Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

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infant receptors.[41] We used a cancer potency factor of 1.1 $(mg/kg\text{-}day)^{-1}$ and an averaging time of 25,550 days. The results of our calculations are shown below.

The Maximum Exposed Individual at an Existing Residential Receptor (MEIR)

Activity	Duration (years)	Concentration (ug/m3)	Breathing Rate (L/kg-day)	ASF	Cancer Risk with ASFs*
Total Construction	**2.83**				**4.2E-06**
Operation	13.42	0.1937	572	3	6.7E-05
Child Exposure Duration	***13.42***			***Child Exposure***	***6.7E-05***
Operation	14.00	0.1937	261	1	7.8E-06
Adult Exposure Duration	***14.00***			***Adult Exposure***	***7.8E-06***
Lifetime Exposure Duration	**30.25**			**Lifetime Exposure**	**7.9E-05**

As demonstrated in the table above, the excess cancer risk to adults and children at the MEIR located approximately 125 meters away, over the course of Project operation, utilizing ASFs, are approximately 7.8 and 67 in one million, respectively. When summing the Project's estimated operational cancer risks, as estimated by SWAPE, with the DEIR's purported construction-related cancer risk of 4.23 in one million, we estimate a lifetime excess cancer risk of approximately 79 in one million (p. 18). Thus, the child and lifetime cancer risks exceed the SCAQMD threshold of 10 in one million, resulting in a potentially significant impact not previously addressed or identified by the DEIR. 1-42 Cont.

An agency must include an analysis of health risks that connects the Project's air emissions with the health risk posed by those emissions. Our analysis represents a screening-level HRA, which is known to be conservative and tends to err on the side of health protection. The purpose of the screening-level construction and operational HRA shown above is to demonstrate the link between the proposed Project's emissions and the potential health risk. Our screening-level HRA demonstrates that construction and operation of the Project could result in a potentially significant health risk impact, when correct exposure assumptions and up-to-date, applicable guidance are used. Therefore, since our screening-level construction HRA indicates a potentially significant impact, an updated EIR should include a reasonable effort to connect the Project's air quality emissions and the potential health risks posed to nearby receptors. Thus, an updated EIR should include a quantified air pollution model as well as an updated, quantified refined health risk assessment which adequately and accurately evaluates health risk impacts associated with both Project construction and operation.

[41] "Risk Assessment Procedures for Rules 1401, 1401.1, and 212," SCAQMD, August 2017, *available at:* http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.

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Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Emissions

The DEIR estimates that the Project would generate net annual greenhouse gas ("GHG") emissions of 2,920.96 metric tons of carbon dioxide equivalents per year ("MT CO_2e/year"), which would not exceed the SCAQMD bright-line threshold of 3,000 MT CO_2e/year (p. 4.6-28 – 4.6-29, Table 4.6-4). 1-43

Table 4.6-4. Estimated Operational Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area	4.45	<0.01[a]	0.00	4.56
Energy (natural gas and electricity)	951.51	0.03	0.01	955.38
Mobile	1,764.82	0.08	0.00	1,766.93
Solid waste	17.53	1.04	0.00	43.42
Water supply and wastewater	80.60	0.02	0.01	84.77
Construction (amortized over 30 years)	—	—	—	65.90
			Total Emissions	**2,920.96**
			SCAQMD GHG Threshold	3,000
			Exceeds thresholds?	**No**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrogen dioxide; CO_2e = carbon dioxide equivalent.
See Appendix C-1 for complete results.
Proposed Project GHG emissions are based on the "mitigated" CalEEMod outputs, which includes reduction in indoor and outdoor water consumption, consistent with CALGreen and compliance with the AB 939 waste reduction goal.
[a] <0.01 = value less than reported 0.01 metric tons per year.

Furthermore, the DEIR relies upon the Project's consistency with the City of El Segundo Climate Action Plan ("CAP"), SCAG's 2020-2045 *RTP/SCS*, CALGreen, CARB's *Scoping Plan*, and the General Plan's Air Quality Element, as well as EO S-3-05 and SB 32, in order to conclude that the Project would result in a less-than-significant GHG impact (p. 4.6-29 - 4.6-48). However, the DEIR's GHG analysis, as well as the subsequent less-than-significant impact conclusion, is incorrect for five reasons.

(1) The DEIR's quantitative GHG analysis relies upon an incorrect and unsubstantiated air model;
(2) The DEIR's quantitative GHG analysis relies upon an outdated threshold;
(3) The DEIR's unsubstantiated air model indicates a potentially significant impact;
(4) The DEIR fails to consider the performance-based standards under CARB's *Scoping Plan*; and
(5) The DEIR fails to consider the performance-based standards under SCAG's *RTP/SCS*.

1) Incorrect and Unsubstantiated Quantitative Analysis of Emissions

As previously stated, the DEIR estimates that the Project would generate net annual GHG emissions of 2,920.96 MT CO_2e/year (p. 4.6-28 – 4.6-29, Table 4.6-4). However, the DEIR's quantitative GHG analysis is unsubstantiated. As previously discussed, when we reviewed the CalEEMod Outputs, provided as Appendix C-1 to the DEIR, we found that several of the values inputted into the model are not consistent with information disclosed in the DEIR. As a result, the model underestimates the Project's emissions, and the DEIR's quantitative GHG analysis should not be relied upon to determine Project significance. An updated EIR should be prepared that adequately assesses the potential GHG impacts that construction and operation of the proposed Project may have on the surrounding environment. 1-44

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2) Incorrect Reliance on an Outdated Quantitative GHG Threshold

As previously discussed, the DEIR estimates that the Project would generate net annual GHG emissions 2,920.96 MT CO_2e/year, which would not exceed the SCAQMD bright-line threshold of 3,000 MT CO_2e/year (p. 4.6-28 – 4.6-29, Table 4.6-4). However, the guidance that provided the 3,000 MTCO_2/year threshold, the SCAQMD's 2008 *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans* report, was developed when the Global Warming Solutions Act of 2006, commonly known as "AB 32", was the governing statute for GHG reductions in California. AB 32 requires California to reduce GHG emissions to 1990 levels by 2020.[42] As it is already April 2021, thresholds for 2020 are not applicable to the proposed Project. As such, the SCAQMD bright-line threshold of 3,000 MT CO_2e/year is outdated and inapplicable to the proposed Project, and the DEIR's less-than-significant GHG impact conclusion should not be relied upon. 1-45

Instead, we recommend that the Project apply the widely-used 2030 "Substantial Progress" threshold of 660 MT CO_2e/year[43] and AEP's "2030 Land Use Efficiency Threshold" of 2.6 metric tons of CO_2 equivalents per service population per year ("MT CO_2e/SP/year").[44] In support of thresholds for projects with a horizon year beyond 2020, AEP's guidance *states:*

> "Once the state has a full plan for 2030 (which is expected in 2017), and then *a project with a horizon between 2021 and 2030 should be evaluated based on a threshold using the 2030 target*. A more conservative approach would be to apply a 2030 threshold *based on SB 32* for any project with a horizon between 2021 and 2030 regardless of the status of the Scoping Plan Update" (emphasis added).[45]

As the California Air Resources Board ("CARB") adopted *California's 2017 Climate Change Scoping Plan* in November of 2017, the proposed Project "should be evaluated based on a threshold using the 2030 target," according to the relevant guidance referenced above. We recommend the preparation of an updated EIR to compare the Project's estimated GHG emissions, as estimated in an updated air model,

[42] HEALTH & SAFETY CODE 38550, *available at:* https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=38550.

[43] See: "JEFFERSON UNION HIGH SCHOOL DISTRICT FACULTY & STAFF HOUSING PROJECT AIR QUALITY & GREENHOUSE GAS ASSESSMENT." City of Daly City, June 2019, *available at:* https://files.ceqanet.opr.ca.gov/257215-2/attachment/k-aC8VdC7LV3xz75yuUmtGiiExH-Y7HEPQ-dU-YIxuhNp95Dx9bK_TbVP3sWar00-Zx87dh7ji80vbRH0, p. 7; "TO 20-01 PAPÉ MACHINERY AIR QUALITY & GREENHOUSE GAS EMISSIONS ASSESSMENT." City of Fremont, February 2020, *available at:* "SOLAR4AMERICA ICE FACILITY EXPANSION AIR QUALITY AND GREENHOUSE GAS EMISSION ASSESSMENT." City of San Jose, September 2019, *available at:* https://www.fremont.gov/DocumentCenter/View/44974/4_Appendix-1_Air-Quality-GHG-Assessment, p. 18; and https://www.sanjoseca.gov/Home/ShowDocument?id=45200, p. 6.

[44] "Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California." Association of Environmental Professionals (AEP), October 2016, *available at:* https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf, p. 40.

[45] "Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California." Association of Environmental Professionals (AEP), October 2016, *available at:* https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf, p. 40.

to the widely-used 2030 "Substantial Progress" threshold of 660 MT CO_2e/year[46] and AEP's "2030 Land Use Efficiency Threshold" of 2.6 MT CO_2e/SP/year. 1-45 Cont.

3) Failure to Identify a Potentially Significant GHG Impact

When applying the widely-used 2030 "Substantial Progress" threshold of 660 MT CO_2e/year[47] and AEP "2030 Land Use Efficiency Threshold" of 2.6 MT CO_2e/SP/year,[48] the DEIR's incorrect and unsubstantiated air model indicates a potentially significant GHG impact.[49] As previously stated, the DEIR estimates that the Project would generate net annual GHG emissions of 2,920.96 MT CO_2e/year (p. 4.6-28 – 4.6-29, Table 4.6-4). Furthermore, according to CAPCOA's *CEQA & Climate Change* report, service population is defined as "the sum of the number of residents and the number of jobs supported by the project."[50] The DEIR estimates that the Project would house and employ approximately 618 residents and 56 employees, respectively, resulting in a service population of 674 people (p. IV.G-17, Table IV.G-4; IV.G-19, Table IV.G-5).[51] When dividing the Project's GHG emissions, as estimated by the DEIR, by a service population of 674 people, we find that the Project would emit approximately 4.3 MT CO_2e/SP/year (see table below).[52]

1-46

[46] See: "JEFFERSON UNION HIGH SCHOOL DISTRICT FACULTY & STAFF HOUSING PROJECT AIR QUALITY & GREENHOUSE GAS ASSESSMENT." City of Daly City, June 2019, *available at:* https://files.ceqanet.opr.ca.gov/257215-2/attachment/k-aC8VdC7LV3xz75yuUmtGiiExH-Y7HEPQ-dU-YlxuhNp95Dx9bK_TbVP3sWar00-Zx87dh7ji80vbRH0, p. 7; "TO 20-01 PAPÉ MACHINERY AIR QUALITY & GREENHOUSE GAS EMISSIONS ASSESSMENT." City of Fremont, February 2020, *available at:* "SOLAR4AMERICA ICE FACILITY EXPANSION AIR QUALITY AND GREENHOUSE GAS EMISSION ASSESSMENT." City of San Jose, September 2019, *available at:* https://www.fremont.gov/DocumentCenter/View/44974/4_Appendix-1_Air-Quality-GHG-Assessment, p. 18; and https://www.sanjoseca.gov/Home/ShowDocument?id=45200, p. 6.

[47] See: "JEFFERSON UNION HIGH SCHOOL DISTRICT FACULTY & STAFF HOUSING PROJECT AIR QUALITY & GREENHOUSE GAS ASSESSMENT." City of Daly City, June 2019, *available at:* https://files.ceqanet.opr.ca.gov/257215-2/attachment/k-aC8VdC7LV3xz75yuUmtGiiExH-Y7HEPQ-dU-YlxuhNp95Dx9bK_TbVP3sWar00-Zx87dh7ji80vbRH0, p. 7; "TO 20-01 PAPÉ MACHINERY AIR QUALITY & GREENHOUSE GAS EMISSIONS ASSESSMENT." City of Fremont, February 2020, *available at:* "SOLAR4AMERICA ICE FACILITY EXPANSION AIR QUALITY AND GREENHOUSE GAS EMISSION ASSESSMENT." City of San Jose, September 2019, *available at:* https://www.fremont.gov/DocumentCenter/View/44974/4_Appendix-1_Air-Quality-GHG-Assessment, p. 18; and https://www.sanjoseca.gov/Home/ShowDocument?id=45200, p. 6.

[48] "Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California." Association of Environmental Professionals (AEP), October 2016, *available at:* https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf, p. 40.

[49] "Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California." Association of Environmental Professionals (AEP), October 2016, *available at:* https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf, p. 40.

[50] CAPCOA (Jan. 2008) CEQA & Climate Change, p. 71-72, http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf.

[51] Calculated: 618 residents + 56 employees = 674 service population.

[52] Calculated: (2,920.96 MT CO_2e/year) / (674 service population) = (4.3 MT CO_2e/SP/year).

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DEIR Modeling Greenhouse Gas Emissions	
Project Phase	**Proposed Project (MT CO_2e/year)**
Net Annual GHG Emissions	**2,921**
Threshold	660
Exceed?	***Yes***
Service Population	674
Service Population Efficiency	**4.3**
Threshold	2.6
Exceed?	***Yes***

1-46 Cont.

As demonstrated above, the Project's net annual GHG emissions and service population efficiency, as estimated by the DEIR, exceed the 2030 "Substantial Progress" threshold of 660 MT CO_2e/SP/year and AEP's "2030 Land Use Efficiency Threshold" of 2.6 MT CO_2e/SP/year, respectively. As a result, the DEIR's less-than-significant GHG impact conclusion should not be relied upon. An updated EIR should be prepared for the Project and mitigation measures should be implemented to reduce the Project's GHG emissions to less-than-significant levels.

4) Failure to Consider Performance-based Standards Under CARB's 2017 Scoping Plan

As previously discussed, the DEIR relies upon the Project's consistency with CARB's 2017 *Scoping Plan* to determine Project GHG significance (p. 4.6-41 – 4.6-45). However, this is incorrect, as the DEIR fails to consider performance-based measures proposed by CARB.

i. Passenger & Light Duty VMT Per Capita Benchmarks per SB 375

In reaching the State's long-term GHG emission reduction goals, CARB's 2017 *Scoping Plan* explicitly cites to SB 375 and the VMT reductions anticipated under the implementation of Sustainable Community Strategies.[53] CARB has identified the population and daily VMT from passenger autos and light-duty vehicles at the state and county level for each year between 2010 to 2050 under a "baseline scenario" that includes "current projections of VMT included in the existing Regional Transportation Plans/Sustainable Communities Strategies (RTP/SCSs) adopted by the State's 18 Metropolitan Planning Organizations (MPOs) pursuant to SB 375 as of 2015."[54] By dividing the projected daily VMT by the population, we calculated the daily VMT per capita for each year at the state and county level for 2010 (baseline year), 2025 (Project operational year), and 2030 (target years under SB 32) (see table below and Attachment B). 1-47

[53] "California's 2017 Climate Change Scoping Plan." CARB, November 2017, *available at*: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf, p. 25, 98, 101-103.

[54] "Supporting Calculations for 2017 Scoping Plan-Identified VMT Reductions," Excel Sheet "Readme." CARB, January 2019, *available at*: https://ww2.arb.ca.gov/sites/default/files/2019-01/sp_mss_vmt_calculations_jan19_0.xlsx.

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2017 Scoping Plan Daily VMT Per Capita						
	Los Angeles County			State		
Year	Population	LDV VMT Baseline	VMT Per Capita	Population	LDV VMT Baseline	VMT Per Capita
2010	9,838,771	216,979,221.64	22.05	37,335,085	836,463,980.46	22.40
2025	10,671,800	217,340,094.90	20.37	42,326,397	929,443,512.65	21.96
2030	10,868,614	215,539,586.12	19.83	43,939,250	957,178,153.19	21.78

The below table compares the 2017 *Scoping Plan* daily VMT per capita values against the daily VMT per capita values for the Project based on SWAPE's updated modeling (see table below and Attachment B).

Daily VMT Per Capita from Passenger & Light-Duty Trucks, Exceedances under 2017 Scoping Plan Performance-Based SB 375 Benchmarks	
Sources	Project SWAPE Modeling
Annual VMT from Auto & Light-Duty Vehicles	5,937,594
Daily VMT from Auto & Light-Duty Vehicles	16,267
Service Population	674
Daily VMT Per Capita	24.14
2017 Scoping Plan Benchmarks, Statewide	
22.40 VMT (2010 Baseline) Exceed?	**Yes**
21.96 VMT (2025 Projected) Exceed?	**Yes**
21.78 VMT (2030 Projected) Exceed?	**Yes**
2017 Scoping Plan Benchmarks, Los Angeles County Specific	
22.05 VMT (2010 Baseline) Exceed?	**Yes**
20.37 VMT (2025 Projected) Exceed?	**Yes**
19.83 VMT (2030 Projected) Exceed?	**Yes**

As shown above, SWAPE's updated modeling shows that the Project exceeds the CARB 2017 *Scoping Plan* projections for 2010, 2025, and 2030. Because the exceeds the CARB 2017 *Scoping Plan* performance-based daily VMT per capita projections, the Project conflicts with the CARB 2017 *Scoping Plan* and SB 375. As such, the DEIR's claim that the proposed Project would not conflict with the CARB 2017 *Scoping Plan* is unsupported. Project-specific EIR should be prepared for the proposed Project to provide additional information and analysis to conclude less-than-significant GHG impacts. 1-47 Cont.

5) Failure to Consider Performance-based Standards under SCAG's RTP/SCS

Here, as discussed above, the DEIR concludes that the Project would be consistent with SCAG's *RTP/SCS* (p. 4.6-34 – 4.6-37). However, the DEIR fails to consider whether or not the Project meets any of the specific performance-based goals underlying SCAG's *RTP/SCS* and SB 375, such as: i) per capita GHG emission targets, or ii) daily vehicles miles traveled ("VMT") per capita benchmarks. 1-48

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i. *SB 375 Per Capita GHG Emission Goals*

SB 375 was signed into law in September 2008 to enhance the state's ability to reach AB 32 goals by directing CARB to develop regional 2020 and 2035 GHG emission reduction targets for passenger vehicles (autos and light-duty trucks). In March 2018, CARB adopted updated regional targets requiring a 19 percent decrease in VMT for the SCAG region by 2035. This goal is reflected in SCAG's 2020 RTP/SCS Program Environmental Impact Report ("PEIR"),[55] in which the 2020 RTP/SCS PEIR updates the per capita emissions to 18.8 lbs/day in 2035 (*see* excerpt below).[56] 1-48 Cont.

Table 3.8-10
SB 375 Analysis

	2005 (Baseline)	2020 (Plan)	2035 (Plan)
Resident population (per 1,000)	17,161	19,194	21,110
CO2 emissions (per 1,000 tons)	204.0/a/	204.5/a/	198.6/b/
Per capita emissions (pounds/day)	23.8	21.3	18.8
% difference from Plan (2020) to Baseline (2005)			–8%
% difference from Plan (2035) to Baseline (2005)			–19%/c/

Note:
/a/ Based on EMFAC2007
/b/Based on EMFAC2014 and SCAG modeling, 2019.
/c/ Includes off-model adjustments for 2035 and 2045
Source: SCAG modeling, 2019.
http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf

In order to evaluate consistency with this SB 375 objective and SCAG's *RTP/SCS* performance-based goal, SWAPE calculated the Project's per-capita CO_2 emissions from passenger and light duty vehicles (calculations attached hereto as Attachment B). First, total annual GHG mobile emissions were multiplied by the percentage of auto and light-duty truck fleet mix, then converted into total pounds per day, then divided by the estimated service population of 674. The below table shows the per capita emissions for the Project based on SWAPE's updated modeling (see table below and Attachment B).

[55] "Connect SoCal Certified Final Program Environmental Impact Report." SCAG, May 2020, *available at*: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_complete.pdf?1607981618.
[56] "Connect SoCal Certified Final Program Environmental Impact Report." SCAG, May 2020, *available at*: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_complete.pdf?1607981618, p. 3.8-74.

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CO_2e Per Capita Emissions from Passenger & Light-Duty Trucks,	
Exceedances under RTP/SCS Performance-Based SB 375 Goals	
Sources	Project
	SWAPE Modeling
Annual Mobile Emissions (MT CO_2e/year)	2,553.25
Passenger & Light-Duty Fleet Mix (%)	91.23%
Daily CO_2e Emissions (lbs/day)	14,068.52
Service Population	674
Per Capita Emissions (lbs/day)	**20.87**
18.8 lbs/day/SP (2045 Target) Exceeded?	Yes

As shown in the above table, when utilizing the DEIR's modeling, the Project would result in 20.87 pounds per day per service population ("lbs/day/SP") emissions. This exceeds SCAG's 2035 target of 18.8-lbs/day/SP, indicating that the Project is inconsistent with SB 375 and SCAG's *RTP/SCS*. 1-48 Cont.

i. SB 375 RTP/SCS Daily VMT Per Capita Target

Under the SCAG's 2020 *RTP/SCS*, daily VMT per capita in the SCAG region should decrease from 23.2 VMT in 2016 to 20.7 VMT by 2045.[57] Daily VMT per capita in Los Angeles County should decrease from 22.2 to 19.2 VMT during that same period.[58]

Here, however, the DEIR fails to consider any of the above-mentioned performance-based VMT targets. In order to evaluate consistency with the *RTP/SCS*'s performance-based VMT reduction targets, SWAPE calculated the Project's VMT from passenger and light duty vehicles (calculations attached hereto as Attachment B). First, annual VMTs from passenger automobile and light-duty vehicle were calculated based on the CalEEMod default fleet mix, converted into daily VMT, and divided by the estimated service population of 674. The below table shows the daily VMT per capita for the Project based on SWAPE's updated modeling (see table below and Attachment B).

[57] "Connect SoCal." SCAG, September 2020, *available at*: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176, pp. 138.
[58] "Connect SoCal." SCAG, September 2020, *available at*: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176, pp. 138.

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Daily VMT Per Capita from Passenger & Light-Duty Trucks,	
Exceedances under RTP/SCS Performance-Based SB 375 Target	
Sources	**Project**
	SWAPE Modeling
Annual VMT from Auto & Light-Duty Vehicles	5,937,594
Daily VMT from Auto & Light-Duty Vehicles	16,267
Service Population	674
Daily VMT Per Capita	24.14
2020 RTP/SCS Benchmarks, SCAG-Wide	
23.2 VMT (2016 Baseline) Exceed?	**Yes**
20.7 VMT (2045 Target) Exceed?	**Yes**
2020 RTP/SCS Benchmarks, Los Angeles County	
22.2 VMT (2016 Baseline) Exceed?	**Yes**
19.2 VMT (2045 Target) Exceed?	**Yes**

1-48 Cont.

As shown in the above table, based on a service population of 674, the Project would result in 24.14 VMT per capita from passenger auto and light-duty truck vehicles. This exceeds all SCAG-wide and Los Angeles County-specific benchmarks and targets under SCAG's 2020 *RTP/SCS*. Thus, based on SWAPE's updated modeling, the Project would exceed the 2016 baseline and 2045 target VMT per capita values for both Los Angeles County and the SCAG region as a whole, indicating that the Project conflicts with the SCAG's *RTP/SCS* and SB 375.

Feasible Mitigation Measures Available to Reduce Emissions

Our analysis demonstrates that the Project would result in potentially significant health risk and GHG 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 CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*.[59] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

1-49

CAPCOA's Quantifying Greenhouse Gas Mitigation Measures[60]
Measures – Energy
Building Energy Use
Install Programmable Thermostat Timers
Obtain Third-party HVAC Commissioning and Verification of Energy Savings

[59] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

[60] "Quantifying Greenhouse Gas Mitigation Measures." California Air Pollution Control Officers Association (CAPCOA), August 2010, *available at:* http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf, p.

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Install Energy Efficient Appliances
Install Energy Efficient Boilers
Lighting
Install Higher Efficacy Public Street and Area Lighting
Limit Outdoor Lighting Requirements
Replace Traffic Lights with LED Traffic Lights
Alternative Energy Generation
Establish Onsite Renewable or Carbon-Neutral Energy Systems
Establish Onsite Renewable Energy System – Solar Power
Utilize a Combined Heat and Power System
Measures – Transportation
Land Use/Location
Increase Density
Increase Destination Accessibility
Integrate Affordable and Below Market Rate Housing
Neighborhood/Site Enhancements
Provide Pedestrian Network Improvements, such as: • Compact, mixed-use communities • Interconnected street network • Narrower roadways and shorter block lengths • Sidewalks • Accessibility to transit and transit shelters • Traffic calming measures and street trees • Parks and public spaces • Minimize pedestrian barriers
Provide Traffic Calming Measures, such as: • Marked crosswalks • Count-down signal timers • Curb extensions • Speed tables • Raised crosswalks • Raised intersections • Median islands • Tight corner radii • Roundabouts or mini-circles • On-street parking • Planter strips with trees • Chicanes/chokers
Implement a Neighborhood Electric Vehicle (NEV) Network.
Create Urban Non-Motorized Zones

1-49 Cont.

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Dedicate Land for Bike Trails
Parking Policy/Pricing
Limit Parking Supply through: • Elimination (or reduction) of minimum parking requirements • Creation of maximum parking requirements • Provision of shared parking
Unbundle Parking Costs from Property Cost
Implement Market Price Public Parking (On-Street)
Require Residential Area Parking Permits
Commute Trip Reduction Programs
Implement Commute Trip Reduction (CTR) Program – Voluntary • Carpooling encouragement • Ride-matching assistance • Preferential carpool parking • Flexible work schedules for carpools • Half time transportation coordinator • Vanpool assistance • Bicycle end-trip facilities (parking, showers and lockers) • New employee orientation of trip reduction and alternative mode options • Event promotions and publications • Flexible work schedule for employees • Transit subsidies • Parking cash-out or priced parking • Shuttles • Emergency ride home
Implement Commute Trip Reduction (CTR) Program – Required Implementation/Monitoring • Established performance standards (e.g. trip reduction requirements) • Required implementation • Regular monitoring and reporting
Provide Ride-Sharing Programs • Designate a certain percentage of parking spaces for ride sharing vehicles • Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles • Providing a web site or messaging board for coordinating rides • Permanent transportation management association membership and funding requirement.
Implement Subsidized or Discounted Transit Program
Provide End of Trip Facilities, including: • Showers • Secure bicycle lockers • Changing spaces
Encourage Telecommuting and Alternative Work Schedules, such as: • Staggered starting times • Flexible schedules

1-49 Cont.

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• Compressed work weeks
Implement Commute Trip Reduction Marketing, such as: • New employee orientation of trip reduction and alternative mode options • Event promotions • Publications
Implement Preferential Parking Permit Program
Implement Car-Sharing Program
Provide Employer-Sponsored Vanpool/Shuttle
Implement Bike-Sharing Programs
Price Workplace Parking, such as: • Explicitly charging for parking for its employees; • Implementing above market rate pricing; • Validating parking only for invited guests; • Not providing employee parking and transportation allowances; and • Educating employees about available alternatives.
Implement Employee Parking "Cash-Out"
Transit System Improvements
Transit System Improvements, including: • Grade-separated right-of-way, including bus only lanes (for buses, emergency vehicles, and sometimes taxis), and other Transit Priority measures. Some systems use guideways which automatically steer the bus on portions of the route. • Frequent, high-capacity service • High-quality vehicles that are easy to board, quiet, clean, and comfortable to ride. • Pre-paid fare collection to minimize boarding delays. • Integrated fare systems, allowing free or discounted transfers between routes and modes. • Convenient user information and marketing programs. • High quality bus stations with Transit Oriented Development in nearby areas. • Modal integration, with BRT service coordinated with walking and cycling facilities, taxi services, intercity bus, rail transit, and other transportation services.
Implement Transit Access Improvements, such as: • Sidewalk/crosswalk safety enhancements • Bus shelter improvements
Expand Transit Network
Increase Transit Service Frequency/Speed
Provide Local Shuttles
Road Pricing/Management
Implement Area or Cordon Pricing
Improve Traffic Flow, such as: • Signalization improvements to reduce delay; • Incident management to increase response time to breakdowns and collisions;

1-49 Cont.

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• Intelligent Transportation Systems (ITS) to provide real-time information regarding road conditions and directions; and • Speed management to reduce high free-flow speeds.
Required Project Contributions to Transportation Infrastructure Improvement Projects
Install Park-and-Ride Lots
Vehicles
Utilize Alternative Fueled Vehicles, such as: • Biodiesel (B20) • Liquefied Natural Gas (LNG) • Compressed Natural Gas (CNG)
Utilize Electric or Hybrid Vehicles
Measures – Water
Water Supply
Use Reclaimed Water
Use Gray Water
Use Locally Sourced Water Supply
Water Use
Install Low-Flow Water Fixtures
Adopt a Water Conservation strategy
Design Water-Efficient Landscapes (see California Department of Water Resources Model Water Efficient Landscape Ordinance), such as: • Reducing lawn sizes; • Planting vegetation with minimal water needs, such as native species; • Choosing vegetation appropriate for the climate of the project site; • Choosing complimentary plants with similar water needs or which can provide each other with shade and/or water.
Use Water-Efficient Landscape Irrigation Systems ("Smart" irrigation control systems)
Reduce Turf in Landscapes and Lawns
Measures – Area Landscaping
Landscaping Equipment
Prohibit Gas Powered Landscape Equipment
Electric Yard Equipment Compatibility
Measures – Solid Waste
Solid Waste
Recycle Demolished Construction Material
Measures – Vegetation
Vegetation
Urban Tree Planting

1-49
Cont.

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Create New Vegetated Open Space
Measures – Construction
Construction
Use Alternative Fuels for Construction Equipment
Urban Tree Planting
Use Electric and Hybrid Construction Equipment
Limit Construction Equipment Idling Beyond Regulation Requirements
Institute a Heavy-Duty Off-Road Vehicle Plan, including: • Construction vehicle inventory tracking system; • Requiring hour meters on equipment; • Document the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment; and • Daily logging of the operating hours of the equipment.
Implement a Construction Vehicle Inventory Tracking System
Measures – Miscellaneous
Miscellaneous
Establish a Carbon Sequestration Project, such as: • Geologic sequestration or carbon capture and storage techniques, in which CO_2 from point sources is captured and injected underground; • Terrestrial sequestration in which ecosystems are established or preserved to serve as CO_2 sinks; • Novel techniques involving advanced chemical or biological pathways; or • Technologies yet to be discovered.
Establish Off-Site Mitigation
Use Local and Sustainable Building Materials
Require Environmentally Responsible Purchasing, such as: • Purchasing products with sustainable packaging; • Purchasing post-consumer recycled copier paper, paper towels, and stationary; • Purchasing and stocking communal kitchens with reusable dishes and utensils; • Choosing sustainable cleaning supplies; • Leasing equipment from manufacturers who will recycle the components at their end of life; • Choosing ENERGY STAR appliances and Water Sense-certified water fixtures; • Choosing electronic appliances with built in sleep-mode timers; • Purchasing 'green power' (e.g. electricity generated from renewable or hydropower) from the utility; and • Choosing locally-made and distributed products.

Furthermore, in an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the proposed Project from NEDC's *Diesel Emission Controls in Construction*

1-49 Cont.

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Projects.[61] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

NEDC's *Diesel Emission Controls in Construction Projects*[62]
Measures – Diesel Emission Control Technology
a. Diesel Onroad Vehicles All diesel nonroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA onroad emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
b. Diesel Generators All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
c. Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
Measures – Additional Diesel Requirements
a. Construction shall not proceed until the contractor submits a certified list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following: i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment. ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
b. If the contractor subsequently needs to bring on site equipment not on the list, the contractor shall submit written notification within 24 hours that attests the equipment complies with all contract conditions and provide information.
c. All diesel equipment shall comply with all pertinent local, state, and federal regulations relative to exhaust emission controls and safety.
d. The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
Reporting
a. For each onroad diesel vehicle, nonroad construction equipment, or generator, the contractor shall submit to the developer's representative a report prior to bringing said equipment on site that includes: i. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number.

1-49 Cont.

[61] "Diesel Emission Controls in Construction Projects." Northeast Diesel Collaborative (NEDC), December 2010, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.
[62] "Diesel Emission Controls in Construction Projects." Northeast Diesel Collaborative (NEDC), December 2010, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.

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ii. The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level.
iii. The Certification Statement signed and printed on the contractor's letterhead.

b. The contractor shall submit to the developer's representative a monthly report that, for each onroad diesel vehicle, nonroad construction equipment, or generator onsite, includes:
   i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
   ii. Any problems with the equipment or emission controls.
   iii. Certified copies of fuel deliveries for the time period that identify:
      1. Source of supply
      2. Quantity of fuel
      3. Quality of fuel, including sulfur content (percent by weight)

1-49 Cont.

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 updated EIR should be prepared to include all feasible mitigation measures, as well as include an updated health risk and GHG analysis 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. 1-50

Sincerely,

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

Paul E. Rosenfeld, Ph.D.

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Attachment A:	SWAPE Health Risk Calculations
Attachment B:	SWAPE GHG and VMT Calculations
Attachment C:	SWAPE Project CalEEMod Modeling
Attachment D:	SWAPE Project AERSCREEN Modeling
Attachment E:	Paul Rosenfeld CV
Attachment F:	Matt Hagemann CV

Attachment A

Operation	
Emission Rate	
Annual Emissions (tons/year)	0.0437
Daily Emissions (lbs/day)	0.239452055
Emission Rate (g/s)	0.00126
Release Height (meters)	3
Initial Vertical Dimension (meters)	1.5
Max Horizontal (meters)	256.0
Min Horizontal (meters)	101.0
Total Acreage	6.389151095
Setting	Urban
Population	16,731
Total Pounds of DPM	
Total DPM (lbs)	87.4

The Maximum Exposed Individual at an Existing Residential Receptor (MEIR) 1-51

Activity	Duration (years)	Concentration (ug/m3)	Breathing Rate (L/kg-day)	ASF	Cancer Risk with ASFs*
Total Construction	**2.83**				**4.2E-06**
Operation	13.42	0.1937	572	3	6.7E-05
Child Exposure Duration	***13.42***			***Child Exposure***	***6.7E-05***
Operation	14.00	0.1937	261	1	7.8E-06
Adult Exposure Duration	***14.00***			***Adult Exposure***	***7.8E-06***
Lifetime Exposure Duration	30.25			**Lifetime Exposure**	7.9E-05

Attachment B

GHG CALCULATIONS: SWAPE Modeling

Line (L)	Value	Unit
		Total Emissions From Passenger and Light Duty Vehicles
1	2,553.25	Mobile Emissions (MT CO2e/year)
2	91.23%	Passenger and Light-Duty VMT Fleet Mix
3	2,329.20	Passenger and Light Duty Vehicle Emissions (MT CO2e/year) [Calc: (L1*L2)]
4	14,068.52	Passenger and Light-Duty Vehicle Emissions (Total lbs CO2e/day) [Calc: (L3 converted into lbs) / (365 days)]
5	674	Service Population (618 residents + 56 long-term jobs)
6	20.87	Per Service Population Emissions (lbs CO2e/day/SP) [Calc: (L4/L5)]
		Daily VMT Per Capita From Passenger and Light Duty Vehicles
7	6,508,735	Project Total VMT (CalEEMod Annual Output, Tbl. 4.2 Trip Summary)
8	91.23%	Passenger and Light-Duty VMT Fleet Mix (see L2)
9	5,937,594	VMT from Passenger & Light-Duty Vehicles
10	16,267	Daily VMT from Passenger & Light-Duty Vehicles [Calc: (L9/365)]
11	674	Service Population (618 residents + 56 long-term jobs)
12	24.14	Daily VMT Per Capita [(Calc: L10/L11)]

CO_2e Per Capita Emissions from Passenger & Light-Duty Trucks,

Exceedances under RTP/SCS Performance-Based SB 375 Goals

Sources	**Project** **SWAPE Modeling**
Annual Mobile Emissions (MT CO_2e/year)	2,553.25
Passenger & Light-Duty Fleet Mix (%)	91.23%
Daily CO_2e Emissions (lbs/day)	14,068.52
Service Population	674
Per Capita Emissions (lbs/day)	**20.87**
18.8 lbs/day/SP (2035 Goal) Exceeded?	**Yes**

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Daily VMT Per Capita from Passenger & Light-Duty Trucks, Exceedances under RTP/SCS Performance-Based SB 375 Target	
Sources	Project
	SWAPE Modeling
Annual VMT from Auto & Light-Duty Vehicles	5,937,594
Daily VMT from Auto & Light-Duty Vehicles	16,267
Service Population	674
Daily VMT Per Capita	24.14
2020 RTP/SCS Benchmarks, SCAG-Wide	
23.2 VMT (2016 Baseline) Exceed?	Yes
20.7 VMT (2045 Target) Exceed?	Yes
2020 RTP/SCS Benchmarks, Los Angeles County	
22.2 VMT (2016 Baseline) Exceed?	Yes
19.2 VMT (2045 Target) Exceed?	Yes

	Los Angeles County			State		
Year	Population	LDV VMT Baseline	VMT Per Capita	Population	LDV VMT Baseline	VMT Per Capita
2010	9,838,771	216,979,221.64	22.05	37,335,085	836,463,980.46	22.40
2025	10,671,800	217,340,094.90	20.37	42,326,397	929,443,512.65	21.96
2030	10,868,614	215,539,586.12	19.83	43,939,250	957,178,153.19	21.78

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Daily VMT Per Capita from Passenger & Light-Duty Trucks, Exceedances under 2017 Scoping Plan Performance-Based SB 375 Benchmarks	
Sources	Project
	SWAPE Modeling
Annual VMT from Auto & Light-Duty Vehicles	5,937,594
Daily VMT from Auto & Light-Duty Vehicles	16,267
Service Population	674
Daily VMT Per Capita	24.14
2017 Scoping Plan Benchmarks, Statewide	
22.40 VMT (2010 Baseline) Exceed?	Yes
21.96 VMT (2025 Projected) Exceed?	Yes
21.78 VMT (2030 Projected) Exceed?	Yes
2017 Scoping Plan Benchmarks, Los Angeles County Specific	
22.05 VMT (2010 Baseline) Exceed?	Yes
20.37 VMT (2025 Projected) Exceed?	Yes
19.83 VMT (2030 Projected) Exceed?	Yes

Attachment C

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Annual

Pacific Coast Commons Specific Plan Project

South Coast AQMD Air District, Annual

Project Characteristics

Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	792.00	Space	0.00	316,800.00	0
Other Asphalt Surfaces	12.65	1000sqft	0.00	12,650.00	0
ligh Turnover (Sit Down Restaurant)	3.95	1000sqft	0.00	3,952.00	0
Apartments Mid Rise	263.00	Dwelling Unit	0.00	327,021.00	752
Regional Shopping Center	7.30	1000sqft	5.35	7,300.00	0

Other Project Characteristics

anization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
ate Zone	8			Operational Year	2025
ty Company	Southern California Edison				
Intensity Whr)	581.77	CH4 Intensity (lb/MWhr)	0.02	N2O Intensity (lb/MWhr)	0.005

User Entered Comments & Non-Default Data

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Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding underestimated land use sizes.

Construction Phase - Consistent with the DEIR's model.

Trips and VMT - See SWAPE comment regarding hauling trips. Worker and vendor trips consistent with the DEIR's model.

On-road Fugitive Dust -

Demolition - See SWAPE comment regarding demolition.

Grading - See SWAPE comment regarding acres of grading values, material mositure content, and material silt content. Material export consistent with the DEIR's model.

Architectural Coating - Architectural coating EFs consistent with the DEIR's model. See SWAPE comment regarding architectural coating areas.

Vehicle Trips - See SWAPE comment regarding operational vehicle trip rates.

Woodstoves - Consistent with the DEIR's model.

Area Coating - See SWAPE comment regarding area coating areas.

Energy Use -

Water And Wastewater - See SWAPE comment regarding wastewater treatment percentages.

Construction Off-road Equipment Mitigation - See SWAPE comment regarding construction-related mitigation measures.

Mobile Land Use Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	230.00	262.00

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Cont.

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tblConstructionPhase	NumDays	230.00	195.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	10.00	22.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	223.55	237.00
tblFireplaces	NumberNoFireplace	26.30	26.00
tblFireplaces	NumberWood	13.15	0.00
tblGrading	MaterialExported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	4,950.00	3,952.00
tblLandUse	LandUseSquareFeet	263,000.00	327,021.00
tblLandUse	LotAcreage	7.13	0.00
tblLandUse	LotAcreage	0.29	0.00
tblLandUse	LotAcreage	0.11	0.00
tblLandUse	LotAcreage	6.92	0.00
tblLandUse	LotAcreage	0.17	5.35
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.02
tblProjectCharacteristics	CO2IntensityFactor	702.44	561.77
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	84.00	60.00

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tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	84.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	332.00	300.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	66.00	240.00
tblTripsAndVMT	WorkerTripNumber	18.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	332.00	120.00
tblTripsAndVMT	WorkerTripNumber	15.00	40.00
tblTripsAndVMT	WorkerTripNumber	66.00	80.00
tblTripsAndVMT	WorkerTripNumber	15.00	100.00
tblTripsAndVMT	WorkerTripNumber	18.00	120.00
tblTripsAndVMT	WorkerTripNumber	15.00	160.00
tblVehicleTrips	HS_TTP	19.20	19.40
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	4.96
tblVehicleTrips	ST_TR	158.37	298.59
tblVehicleTrips	ST_TR	49.97	42.00

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Cont.

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tblVehicleTrips	SU_TR	5.88	5.04
tblVehicleTrips	SU_TR	131.84	205.83
tblVehicleTrips	SU_TR	25.24	23.51
tblVehicleTrips	WD_TR	6.65	5.19
tblVehicleTrips	WD_TR	127.15	170.90
tblVehicleTrips	WD_TR	42.70	38.05
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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					
2021	0.1147	1.1622	0.7437	1.6700e-003	0.3552	0.0526	0.4077	0.1637	0.0486	0.2122	0.0000	150.2980	150.2980	0.0329	0.0000	151.1444
2022	1.3593	2.3980	2.6886	5.9700e-003	0.2647	0.1049	0.3696	0.0670	0.0983	0.1653	0.0000	532.1323	532.1323	0.0866	0.0000	534.2970
2023	0.3892	2.9109	3.2200	9.1800e-003	0.7656	0.1075	0.8731	0.2899	0.1002	0.3901	0.0000	832.8981	832.8981	0.1113	0.0000	835.6806
2024	1.2711	1.3401	1.9799	5.3600e-003	0.2854	0.0473	0.3327	0.0765	0.0443	0.1208	0.0000	483.9751	483.9751	0.0547	0.0000	485.3427
Maximum	**1.3593**	**2.9109**	**3.2200**	**9.1800e-003**	**0.7656**	**0.1075**	**0.8731**	**0.2899**	**0.1002**	**0.3901**	**0.0000**	**832.8981**	**832.8981**	**0.1113**	**0.0000**	**835.6806**

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2.1 Overall Construction

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					
2021	0.1147	1.1622	0.7436	1.6700e-003	0.3552	0.0526	0.4077	0.1637	0.0485	0.2122	0.0000	150.2959	150.2959	0.0339	0.0000	151.1442
2022	1.3593	2.3860	2.6886	5.9700e-003	0.2647	0.1049	0.3696	0.0870	0.0983	0.1853	0.0000	532.1320	532.1320	0.0866	0.0000	534.2966
2023	0.3692	2.9109	3.2200	9.1800e-003	0.7656	0.1075	0.8731	0.2899	0.1002	0.3901	0.0000	832.8977	832.8977	0.1113	0.0000	835.6802
2024	1.2711	1.3401	1.9799	5.3600e-003	0.2854	0.0473	0.3327	0.0765	0.0443	0.1208	0.0000	483.9749	483.9749	0.0547	0.0000	486.3421
Maximum	**1.3593**	**2.9109**	**3.2200**	**9.1800e-003**	**0.7656**	**0.1075**	**0.8731**	**0.2899**	**0.1002**	**0.3901**	**0.0000**	**832.8977**	**832.8977**	**0.1113**	**0.0000**	**835.6802**

	ROG	NOx	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	10-1-2021	12-31-2021	1.2749	1.2749
2	1-1-2022	3-31-2022	0.7105	0.7105
3	4-1-2022	6-30-2022	0.6789	0.6789
4	7-1-2022	9-30-2022	0.6863	0.6863
5	10-1-2022	12-31-2022	1.6766	1.6766
6	1-1-2023	3-31-2023	0.9521	0.9521
7	4-1-2023	6-30-2023	0.6759	0.6759
8	7-1-2023	9-30-2023	0.7218	0.7218

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9	10-1-2023	12-31-2023	0.7269	0.7269
10	1-1-2024	3-31-2024	0.6806	0.6806
11	4-1-2024	6-30-2024	1.1803	1.1803
12	7-1-2024	9-30-2024	0.7515	0.7515
		Highest	1.6766	1.6766

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	1.4385	0.0313	2.7201	1.4000e-004		0.0151	0.0151		0.0151	0.0151	0.0000	4.4507	4.4507	4.3000e-003	0.0000	4.5580
Energy	0.0218	0.1894	0.1017	1.1900e-003		0.0151	0.0151		0.0151	0.0151	0.0000	1,013.325 0	1,013.325 0	0.0325	0.0111	1,017.432 6
Mobile	0.5540	2.7968	6.6649	0.0275	2.4727	0.0200	2.4927	0.6625	0.0186	0.6810	0.0000	2,550.383 7	2,550.383 7	0.1146	0.0000	2,553.247 8
Waste						0.0000	0.0000		0.0000	0.0000	38.0730	0.0000	38.0730	2.2501	0.0000	94.3242
Water						0.0000	0.0000		0.0000	0.0000	6.0845	95.4263	101.5108	0.6283	0.0156	121.8697
Total	2.0143	3.0176	9.4867	0.0288	2.4727	0.0501	2.5228	0.6625	0.0487	0.7112	44.1575	3,663.585 6	3,707.743 1	3.0298	0.0267	3,791.432 4

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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	1.4385	0.0313	2.7201	1.4000e-004		0.0151	0.0151		0.0151	0.0151	0.0000	4.4507	4.4507	4.3000e-003	0.0000	4.5580
Energy	0.0218	0.1894	0.1017	1.1900e-003		0.0151	0.0151		0.0151	0.0151	0.0000	1,013.325 0	1,013.325 0	0.0325	0.0111	1,017.432 6
Mobile	0.5540	2.7968	6.6649	0.0275	2.4727	0.0200	2.4927	0.6625	0.0186	0.6810	0.0000	2,550.383 7	2,550.383 7	0.1146	0.0000	2,553.247 8
Waste						0.0000	0.0000		0.0000	0.0000	38.0730	0.0000	38.0730	2.2501	0.0000	94.3242
Water						0.0000	0.0000		0.0000	0.0000	6.0845	95.4263	101.5108	0.6283	0.0156	121.8697
Total	2.0143	3.0176	9.4067	0.0288	2.4727	0.0501	2.5228	0.6625	0.0487	0.7112	44.1575	3,663.585 6	3,707.743 1	3.0298	0.0267	3,791.432 4

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

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition - Phase 1	Demolition	10/1/2021	10/31/2021	5	21	
2	Site Preparation - Phase 1	Site Preparation	11/1/2021	11/30/2021	5	22	
3	Grading - Phase 1	Grading	12/1/2021	1/31/2022	5	44	
4	Building Construction - Phase 1	Building Construction	2/1/2022	10/31/2022	5	195	
5	Paving - Phase 1	Paving	11/1/2022	12/31/2022	5	44	
6	Architectural Coating - Phase 1	Architectural Coating	11/1/2022	12/31/2022	5	44	
7	Demolition - Phases 2 and 3	Demolition	1/1/2023	2/28/2023	5	42	
8	Site Preparation - Phases 2 and 3	Site Preparation	3/1/2023	3/30/2023	5	22	
9	Grading - Phases 2 and 3	Grading	4/1/2023	5/30/2023	5	42	
10	Building Construction - Phases 2 and 3	Building Construction	6/1/2023	5/31/2024	5	262	
11	Paving - Phases 2 and 3	Paving	6/1/2024	7/31/2024	5	43	
12	Architectural Coating - Phases 2 and 3	Architectural Coating	6/1/2024	7/31/2024	5	43	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 662,218; Residential Outdoor: 220,739; Non-Residential Indoor: 18,378; Non-Residential Outdoor: 6,126; Striped Parking Area: 19,767 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition - Phase 1	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - Phase 1	Excavators	3	8.00	158	0.38
Demolition - Phase 1	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation - Phase 1	Rubber Tired Dozers	3	8.00	247	0.40

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Site Preparation - Phase 1	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading - Phase 1	Excavators	1	8.00	158	0.38
Grading - Phase 1	Graders	1	8.00	187	0.41
Grading - Phase 1	Rubber Tired Dozers	1	8.00	247	0.40
Grading - Phase 1	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction - Phase 1	Cranes	1	7.00	231	0.29
Building Construction - Phase 1	Forklifts	3	8.00	89	0.20
Building Construction - Phase 1	Generator Sets	1	8.00	84	0.74
Building Construction - Phase 1	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction - Phase 1	Welders	1	8.00	46	0.45
Paving - Phase 1	Pavers	2	8.00	130	0.42
Paving - Phase 1	Paving Equipment	2	8.00	132	0.36
Paving - Phase 1	Rollers	2	8.00	80	0.38
Architectural Coating - Phase 1	Air Compressors	1	6.00	78	0.48
Demolition - Phases 2 and 3	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - Phases 2 and 3	Excavators	3	8.00	158	0.38
Demolition - Phases 2 and 3	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation - Phases 2 and 3	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation - Phases 2 and 3	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading - Phases 2 and 3	Excavators	1	8.00	158	0.38
Grading - Phases 2 and 3	Graders	1	8.00	187	0.41
Grading - Phases 2 and 3	Rubber Tired Dozers	1	8.00	247	0.40
Grading - Phases 2 and 3	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction - Phases 2 and 3	Cranes	1	7.00	231	0.29
Building Construction - Phases 2 and 3	Forklifts	3	8.00	89	0.20
Building Construction - Phases 2 and 3	Generator Sets	1	8.00	84	0.74
Building Construction - Phases 2 and 3	Tractors/Loaders/Backhoes	3	7.00	97	0.37

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uilding Construction - Phases 2 and 3	Welders		1	8.00	46	0.45
aving - Phases 2 and 3	Pavers		2	8.00	130	0.42
aving - Phases 2 and 3	Paving Equipment		2	8.00	132	0.36
aving - Phases 2 and 3	Rollers		2	8.00	80	0.38
rchitectural Coating - Phases 2 and 3	Air Compressors		1	6.00	78	0.48

rips 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
emolition - Phase 1	6	80.00	20.00	406.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
ite Preparation - Phase 1	7	50.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
rading - Phase 1	6	80.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
uilding Construction - Phase 1	9	120.00	30.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
aving - Phase 1	6	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
rchitectural Coating - Phase 1	1	80.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
emolition - Phases 2 and 3	6	108.00	40.00	408.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
ite Preparation - Phases 2 and 3	7	120.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
rading - Phases 2 and 3	6	160.00	20.00	2,125.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
uilding Construction - Phases 2 and 3	9	300.00	60.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
aving - Phases 2 and	6	80.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
rchitectural Coating - Phases 2 and 3	1	240.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

.1 Mitigation Measures Construction

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3.2 Demolition - Phase 1 - 2021

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					0.0440	0.0000	0.0440	6.6600e-003	0.0000	6.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0332	0.3301	0.2264	4.1000e-004		0.0163	0.0163		0.0151	0.0151	0.0000	35.7008	35.7008	0.0101	0.0000	35.9520
Total	**0.0332**	**0.3301**	**0.2264**	**4.1000e-004**	**0.0440**	**0.0163**	**0.0603**	**6.6600e-003**	**0.0151**	**0.0218**	**0.0000**	**35.7008**	**35.7008**	**0.0101**	**0.0000**	**35.9520**

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	1.4900e-003	0.0529	0.0112	1.9000e-004	3.4900e-003	1.5000e-004	3.6500e-003	9.6000e-004	1.5000e-004	1.1100e-003	0.0000	15.1580	15.1580	1.0400e-003	0.0000	15.1839
Vendor	6.0000e-004	0.0203	5.0400e-003	5.0000e-005	1.3200e-003	4.0000e-005	1.3600e-003	3.8000e-004	4.0000e-005	4.2000e-004	0.0000	5.1271	5.1271	3.2000e-004	0.0000	5.1352
Worker	3.5000e-003	2.5900e-003	0.0293	9.0000e-005	9.2200e-003	7.0000e-005	9.2900e-003	2.4500e-003	6.0000e-005	2.5100e-003	0.0000	8.0275	8.0275	2.2000e-004	0.0000	8.0329
Total	**5.5900e-003**	**0.0758**	**0.0455**	**2.9000e-004**	**0.0140**	**2.7000e-004**	**0.0143**	**3.7900e-003**	**2.5000e-004**	**4.0400e-003**	**0.0000**	**28.3126**	**28.3126**	**1.5800e-003**	**0.0000**	**28.3521**

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3.2 Demolition - Phase 1 - 2021

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					0.0440	0.0000	0.0440	6.6600e-003	0.0000	6.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0332	0.3301	0.2264	4.1000e-004		0.0163	0.0163		0.0151	0.0151	0.0000	35.7008	35.7008	0.0101	0.0000	35.9520
Total	**0.0332**	**0.3301**	**0.2264**	**4.1000e-004**	**0.0440**	**0.0163**	**0.0603**	**6.6600e-003**	**0.0151**	**0.0218**	**0.0000**	**35.7008**	**35.7008**	**0.0101**	**0.0000**	**35.9520**

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	1.4900e-003	0.0539	0.0112	1.6000e-004	3.4900e-003	1.6000e-004	3.6500e-003	9.6000e-004	1.5000e-004	1.1100e-003	0.0000	15.1580	15.1580	1.0400e-003	0.0000	15.1839
Vendor	6.0000e-004	0.0203	5.0400e-003	5.0000e-005	1.3200e-003	4.0000e-005	1.3600e-003	3.8000e-004	4.0000e-005	4.2000e-004	0.0000	5.1271	5.1271	3.2000e-004	0.0000	5.1352
Worker	3.6000e-003	2.5900e-003	0.0293	9.0000e-005	9.2200e-003	7.0000e-005	9.2900e-003	2.4500e-003	6.0000e-005	2.5100e-003	0.0000	8.0275	8.0275	2.2000e-004	0.0000	8.0329
Total	**5.5900e-003**	**0.0756**	**0.0455**	**2.9000e-004**	**0.0140**	**2.7000e-004**	**0.0143**	**3.7900e-003**	**2.5000e-004**	**4.0400e-003**	**0.0000**	**28.3126**	**28.3126**	**1.5800e-003**	**0.0000**	**28.3521**

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3.3 Site Preparation - Phase 1 - 2021

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					0.1987	0.0000	0.1987	0.1092	0.0000	0.1092	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0428	0.4455	0.2327	4.2000e-004		0.0225	0.0225		0.0207	0.0207	0.0000	36.7793	36.7793	0.0119	0.0000	37.0767
Total	**0.0428**	**0.4455**	**0.2327**	**4.2000e-004**	**0.1987**	**0.0225**	**0.2212**	**0.1092**	**0.0207**	**0.1299**	**0.0000**	**36.7793**	**36.7793**	**0.0119**	**0.0000**	**37.0767**

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	3.1000e-004	0.0106	2.6400e-003	3.0000e-005	8.9000e-004	2.0000e-005	7.1000e-004	2.0000e-004	2.0000e-005	2.2000e-004	0.0000	2.6856	2.6856	1.7000e-004	0.0000	2.6899
Worker	2.2900e-003	1.6900e-003	0.0192	6.0000e-005	6.0300e-003	5.0000e-005	6.0800e-003	1.6000e-003	4.0000e-005	1.6400e-003	0.0000	5.2561	5.2561	1.4000e-004	0.0000	5.2597
Total	**2.6000e-003**	**0.0123**	**0.0218**	**9.0000e-005**	**6.7200e-003**	**7.0000e-005**	**6.7900e-003**	**1.8000e-003**	**6.0000e-005**	**1.8600e-003**	**0.0000**	**7.9417**	**7.9417**	**3.1000e-004**	**0.0000**	**7.9495**

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3.3 Site Preparation - Phase 1 - 2021

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					0.1987	0.0000	0.1987	0.1092	0.0000	0.1092	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off Road	0.0428	0.4455	0.2327	4.2000e-004		0.0225	0.0225		0.0207	0.0207	0.0000	36.7792	36.7792	0.0119	0.0000	37.0766
Total	**0.0428**	**0.4455**	**0.2327**	**4.2000e-004**	**0.1987**	**0.0225**	**0.2212**	**0.1092**	**0.0207**	**0.1299**	**0.0000**	**36.7792**	**36.7792**	**0.0119**	**0.0000**	**37.0766**

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	3.1000e-004	0.0106	2.6400e-003	3.0000e-005	6.9000e-004	2.0000e-005	7.1000e-004	2.0000e-004	2.0000e-005	2.2000e-004	0.0000	2.6856	2.6856	1.7000e-004	0.0000	2.6899
Worker	2.2900e-003	1.6900e-003	0.0192	6.0000e-005	6.0300e-003	5.0000e-005	6.0800e-003	1.6000e-003	4.0000e-005	1.6400e-003	0.0000	5.2561	5.2561	1.4000e-004	0.0000	5.2597
Total	**2.6000e-003**	**0.0123**	**0.0218**	**9.0000e-005**	**6.7200e-003**	**7.0000e-005**	**6.7900e-003**	**1.8000e-003**	**6.0000e-005**	**1.8600e-003**	**0.0000**	**7.9417**	**7.9417**	**3.1000e-004**	**0.0000**	**7.9495**

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3.4 Grading - Phase 1 - 2021

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					0.0809	0.0000	0.0809	0.0393	0.0000	0.0393	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0263	0.2845	0.1824	3.4000e-004		0.0133	0.0133		0.0123	0.0123	0.0000	29.9618	29.9618	9.6900e-003	0.0000	30.2040
Total	**0.0263**	**0.2845**	**0.1824**	**3.4000e-004**	**0.0809**	**0.0133**	**0.0943**	**0.0393**	**0.0123**	**0.0516**	**0.0000**	**29.9618**	**29.9618**	**9.6900e-003**	**0.0000**	**30.2040**

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	3.3000e-004	0.0111	2.7800e-003	3.0000e-005	7.2000e-004	2.0000e-005	7.5000e-004	2.1000e-004	2.0000e-005	2.3000e-004	0.0000	2.8077	2.8077	1.8000e-004	0.0000	2.8121
Worker	3.8300e-003	2.8300e-003	0.0321	1.0000e-004	0.0101	8.0000e-005	0.0102	2.6800e-003	7.0000e-005	2.7500e-003	0.0000	8.7921	8.7921	2.4000e-004	0.0000	8.7980
Total	**4.1600e-003**	**0.0140**	**0.0348**	**1.3000e-004**	**0.0108**	**1.0000e-004**	**0.0109**	**2.8900e-003**	**9.0000e-005**	**2.9800e-003**	**0.0000**	**11.5998**	**11.5998**	**4.2000e-004**	**0.0000**	**11.6101**

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3.4 Grading - Phase 1 - 2021

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					0.0809	0.0000	0.0809	0.0393	0.0000	0.0393	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0263	0.2845	0.1824	3.4000e-004		0.0133	0.0133		0.0123	0.0123	0.0000	29.9617	29.9617	9.6900e-003	0.0000	30.2040
Total	**0.0263**	**0.2845**	**0.1824**	**3.4000e-004**	**0.0809**	**0.0133**	**0.0943**	**0.0393**	**0.0123**	**0.0516**	**0.0000**	**29.9617**	**29.9617**	**9.6900e-003**	**0.0000**	**30.2040**

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	3.3000e-004	0.0111	2.7800e-003	3.0000e-005	7.2000e-004	2.0000e-005	7.5000e-004	2.1000e-004	2.0000e-005	2.3000e-004	0.0000	2.8077	2.8077	1.8000e-004	0.0000	2.8121
Worker	3.8300e-003	2.8300e-003	0.0321	1.0000e-004	0.0101	8.0000e-005	0.0102	2.6800e-003	7.0000e-005	2.7500e-003	0.0000	8.7921	8.7921	2.4000e-004	0.0000	8.7980
Total	**4.1600e-003**	**0.0140**	**0.0348**	**1.3000e-004**	**0.0108**	**1.0000e-004**	**0.0109**	**2.8900e-003**	**9.0000e-005**	**2.9800e-003**	**0.0000**	**11.5998**	**11.5998**	**4.2000e-004**	**0.0000**	**11.6101**

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3.4 Grading - Phase 1 - 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					0.0749	0.0000	0.0749	0.0360	0.0000	0.0360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0205	0.2190	0.1604	3.1000e-004		9.8800e-003	9.8800e-003		9.0900e-003	9.0900e-003	0.0000	27.3575	27.3575	8.8500e-003	0.0000	27.5787
Total	**0.0205**	**0.2190**	**0.1604**	**3.1000e-004**	**0.0749**	**9.8800e-003**	**0.0848**	**0.0360**	**9.0900e-003**	**0.0451**	**0.0000**	**27.3575**	**27.3575**	**8.8500e-003**	**0.0000**	**27.5787**

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	2.8000e-004	9.5300e-003	2.3800e-003	3.0000e-005	6.6000e-004	2.0000e-005	6.8000e-004	1.9000e-004	2.0000e-005	2.1000e-004	0.0000	2.5410	2.5410	1.6000e-004	0.0000	2.5449
Worker	3.2900e-003	2.3400e-003	0.0270	9.0000e-005	9.2200e-003	7.0000e-005	9.2800e-003	2.4500e-003	6.0000e-005	2.5100e-003	0.0000	7.7397	7.7397	1.9000e-004	0.0000	7.7446
Total	**3.5700e-003**	**0.0120**	**0.0294**	**1.2000e-004**	**9.8800e-003**	**9.0000e-005**	**9.9600e-003**	**2.6400e-003**	**8.0000e-005**	**2.7200e-003**	**0.0000**	**10.2807**	**10.2807**	**3.5000e-004**	**0.0000**	**10.2895**

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.4 Grading - Phase 1 - 2022

litigated 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					0.0749	0.0000	0.0749	0.0360	0.0000	0.0360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0205	0.2190	0.1604	3.1000e-004		9.8800e-003	9.8800e-003		9.0900e-003	9.0900e-003	0.0000	27.3575	27.3575	8.8500e-003	0.0000	27.5787
Total	**0.0205**	**0.2190**	**0.1604**	**3.1000e-004**	**0.0749**	**9.8800e-003**	**0.0848**	**0.0360**	**9.0900e-003**	**0.0451**	**0.0000**	**27.3575**	**27.3575**	**8.8500e-003**	**0.0000**	**27.5787**

litigated 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	2.6000e-004	9.6300e-003	2.3300e-003	3.0000e-005	6.6000e-004	2.0000e-005	6.8000e-004	1.9000e-004	2.0000e-005	2.1000e-004	0.0000	2.5410	2.5410	1.6000e-004	0.0000	2.5449
Worker	3.2900e-003	2.3400e-003	0.0270	9.0000e-005	9.2200e-003	7.0000e-005	9.2800e-003	2.4500e-003	6.0000e-005	2.5100e-003	0.0000	7.7397	7.7397	1.9000e-004	0.0000	7.7446
Total	**3.5700e-003**	**0.0120**	**0.0294**	**1.2000e-004**	**9.8800e-003**	**9.0000e-005**	**9.9600e-003**	**2.6400e-003**	**8.0000e-005**	**2.7200e-003**	**0.0000**	**10.2807**	**10.2807**	**3.5000e-004**	**0.0000**	**10.2895**

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5 Building Construction - Phase 1 - 2022

nmitigated 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	0.1664	1.5225	1.5954	2.6300e-003		0.0789	0.0789		0.0742	0.0742	0.0000	225.9321	225.9321	0.0541	0.0000	227.2853
Total	**0.1664**	**1.5225**	**1.5954**	**2.6300e-003**		**0.0789**	**0.0789**		**0.0742**	**0.0742**	**0.0000**	**225.9321**	**225.9321**	**0.0541**	**0.0000**	**227.2853**

nmitigated 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	7.8000e-003	0.2604	0.0663	7.3000e-004	0.0184	4.9000e-004	0.0189	5.3200e-003	4.7000e-004	5.7900e-003	0.0000	70.7641	70.7641	4.3500e-003	0.0000	70.8920
Worker	0.0458	0.0326	0.3765	1.1900e-003	0.1284	9.4000e-004	0.1293	0.0341	8.6000e-004	0.0350	0.0000	107.8034	107.8034	2.7100e-003	0.0000	107.8712
Total	**0.0536**	**0.3009**	**0.4428**	**1.9200e-003**	**0.1468**	**1.4300e-003**	**0.1482**	**0.0394**	**1.3300e-003**	**0.0407**	**0.0000**	**178.5875**	**178.5875**	**7.0600e-003**	**0.0000**	**178.7639**

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3.5 Building Construction - Phase 1 - 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	0.1664	1.5225	1.5954	2.6300e-003		0.0789	0.0789		0.0742	0.0742	0.0000	225.9318	225.9318	0.0541	0.0000	227.2850
Total	**0.1664**	**1.5225**	**1.5954**	**2.6300e-003**		**0.0789**	**0.0789**		**0.0742**	**0.0742**	**0.0000**	**225.9318**	**225.9318**	**0.0541**	**0.0000**	**227.2850**

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	7.8000e-003	0.2684	0.0663	7.3000e-004	0.0184	4.9000e-004	0.0189	5.3200e-003	4.7000e-004	5.7900e-003	0.0000	70.7841	70.7841	4.3600e-003	0.0000	70.8930
Worker	0.0458	0.0326	0.3765	1.1900e-003	0.1284	9.4000e-004	0.1293	0.0341	8.6000e-004	0.0350	0.0000	107.8034	107.8034	2.7100e-003	0.0000	107.8712
Total	**0.0536**	**0.3009**	**0.4428**	**1.9200e-003**	**0.1468**	**1.4300e-003**	**0.1482**	**0.0394**	**1.3300e-003**	**0.0407**	**0.0000**	**178.5875**	**178.5875**	**7.0600e-003**	**0.0000**	**178.7639**

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3.6 Paving - Phase 1 - 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	0.0243	0.2448	0.3208	5.0000e-004		0.0125	0.0125		0.0115	0.0115	0.0000	44.0606	44.0606	0.0143	0.0000	44.4169
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0243**	**0.2448**	**0.3208**	**5.0000e-004**		**0.0125**	**0.0125**		**0.0115**	**0.0115**	**0.0000**	**44.0606**	**44.0606**	**0.0143**	**0.0000**	**44.4169**

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	5.9000e-004	0.0202	4.9800e-003	5.0000e-005	1.3800e-003	4.0000e-005	1.4200e-003	4.0000e-004	4.0000e-005	4.4000e-004	0.0000	5.3239	5.3239	5.3000e-004	0.0000	5.3321
Worker	3.4400e-003	2.4500e-003	0.0283	9.0000e-005	9.6500e-003	7.0000e-005	9.7300e-003	2.5600e-003	6.0000e-005	2.6300e-003	0.0000	8.1083	8.1083	2.0000e-004	0.0000	8.1134
Total	**4.0300e-003**	**0.0226**	**0.0333**	**1.4000e-004**	**0.0110**	**1.1000e-004**	**0.0112**	**2.9600e-003**	**1.0000e-004**	**3.0700e-003**	**0.0000**	**13.4322**	**13.4322**	**5.3000e-004**	**0.0000**	**13.4455**

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6 Paving - Phase 1 - 2022

itigated 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	0.0243	0.2448	0.3208	5.0000e-004		0.0125	0.0125		0.0115	0.0115	0.0000	44.0606	44.0606	0.0143	0.0000	44.4168
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0243**	**0.2448**	**0.3208**	**5.0000e-004**		**0.0125**	**0.0125**		**0.0115**	**0.0115**	**0.0000**	**44.0606**	**44.0606**	**0.0143**	**0.0000**	**44.4168**

itigated 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	5.9000e-004	0.0202	4.9900e-003	5.0000e-005	1.3900e-003	4.0000e-006	1.4200e-003	4.0000e-004	4.0000e-006	4.4000e-004	0.0000	5.3239	5.3239	3.3000e-004	0.0000	5.3321
Worker	3.4400e-003	2.4500e-003	0.0283	9.0000e-005	9.6500e-003	7.0000e-005	9.7300e-003	2.5600e-003	6.0000e-005	2.6300e-003	0.0000	8.1083	8.1083	2.0000e-004	0.0000	8.1134
Total	**4.0300e-003**	**0.0226**	**0.0333**	**1.4000e-004**	**0.0110**	**1.1000e-004**	**0.0112**	**2.9600e-003**	**1.0000e-004**	**3.0700e-003**	**0.0000**	**13.4322**	**13.4322**	**5.3000e-004**	**0.0000**	**13.4455**

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3.7 Architectural Coating - Phase 1 - 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					
Archit. Coating	1.0744					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5000e-003	0.0310	0.0399	7.0000e-005		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	5.6172	5.6172	3.7000e-004	0.0000	5.6263
Total	**1.0789**	**0.0310**	**0.0399**	**7.0000e-005**		**1.8000e-003**	**1.8000e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**5.6172**	**5.6172**	**3.7000e-004**	**0.0000**	**5.6263**

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	1.1700e-003	0.0404	9.9800e-003	1.1000e-004	2.7700e-003	7.0000e-005	2.8500e-003	8.0000e-004	7.0000e-005	8.7000e-004	0.0000	10.6479	10.6479	6.5000e-004	0.0000	10.6642
Worker	6.8900e-003	4.9000e-003	0.0565	1.8000e-004	0.0193	1.4000e-004	0.0195	5.1300e-003	1.3000e-004	5.2600e-003	0.0000	16.2166	16.2166	4.1000e-004	0.0000	16.2268
Total	**8.0600e-003**	**0.0453**	**0.0666**	**2.9000e-004**	**0.0221**	**2.1000e-004**	**0.0223**	**5.9300e-003**	**2.0000e-004**	**6.1300e-003**	**0.0000**	**26.8645**	**26.8645**	**1.0600e-003**	**0.0000**	**26.8910**

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Cont.

3.7 Architectural Coating - Phase 1 - 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					
Archit. Coating	1.0744					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5000e-003	0.0310	0.0399	7.0000e-005		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	5.6172	5.6172	3.7000e-004	0.0000	5.6263
Total	**1.0789**	**0.0310**	**0.0399**	**7.0000e-005**		**1.8000e-003**	**1.8000e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**5.6172**	**5.6172**	**3.7000e-004**	**0.0000**	**5.6263**

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	1.1700e-003	0.0404	9.9800e-003	1.1000e-004	2.7700e-003	7.0000e-005	2.8500e-003	8.0000e-004	7.0000e-005	8.7000e-004	0.0000	10.6479	10.6479	6.5000e-004	0.0000	10.6642
Worker	6.8900e-003	4.9000e-003	0.0566	1.8000e-004	0.0193	1.4000e-004	0.0195	5.1300e-003	1.3000e-004	5.2600e-003	0.0000	15.2166	15.2166	4.1000e-004	0.0000	15.2268
Total	**8.0600e-003**	**0.0453**	**0.0666**	**2.9000e-004**	**0.0221**	**2.1000e-004**	**0.0223**	**5.9300e-003**	**2.0000e-004**	**6.1300e-003**	**0.0000**	**26.8645**	**26.8645**	**1.0600e-003**	**0.0000**	**26.8910**

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3.8 Demolition - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0440	0.0000	0.0440	6.6600e-003	0.0000	6.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0477	0.4512	0.4125	8.2000e-004		0.0210	0.0210		0.0195	0.0195	0.0000	71.3833	71.3833	0.0200	0.0000	71.8831
Total	**0.0477**	**0.4512**	**0.4125**	**8.2000e-004**	**0.0440**	**0.0210**	**0.0649**	**6.6600e-003**	**0.0195**	**0.0262**	**0.0000**	**71.3833**	**71.3833**	**0.0200**	**0.0000**	**71.8831**

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	9.4000e-004	0.0314	0.0100	1.5000e-004	3.4900e-003	6.0000e-005	3.5600e-003	9.6000e-004	6.0000e-005	1.0100e-003	0.0000	14.3849	14.3849	9.3000e-004	0.0000	14.4082
Vendor	1.6700e-003	0.0580	0.0170	2.0000e-004	5.2900e-003	7.0000e-005	5.3600e-003	1.5300e-003	6.0000e-005	1.5900e-003	0.0000	19.7150	19.7150	1.0900e-003	0.0000	19.7421
Worker	7.7400e-003	5.2900e-003	0.0623	2.1000e-004	0.0230	1.5000e-004	0.0232	6.1200e-003	1.5000e-004	6.2700e-003	0.0000	18.6277	18.6277	4.4000e-004	0.0000	18.6387
Total	**0.0104**	**0.0947**	**0.0894**	**5.6000e-004**	**0.0318**	**2.9000e-004**	**0.0321**	**8.6100e-003**	**2.7000e-004**	**8.8700e-003**	**0.0000**	**52.7276**	**52.7276**	**2.4600e-003**	**0.0000**	**52.7890**

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3.8 Demolition - Phases 2 and 3 - 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					
Fugitive Dust					0.0440	0.0000	0.0440	6.6600e-003	0.0000	6.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0477	0.4512	0.4125	8.2000e-004		0.0210	0.0210		0.0195	0.0195	0.0000	71.3833	71.3833	0.0200	0.0000	71.8830
Total	**0.0477**	**0.4512**	**0.4125**	**8.2000e-004**	**0.0440**	**0.0210**	**0.0649**	**6.6600e-003**	**0.0195**	**0.0262**	**0.0000**	**71.3833**	**71.3833**	**0.0200**	**0.0000**	**71.8830**

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	9.4000e-004	0.0314	0.0100	1.6000e-004	3.4900e-003	6.0000e-005	3.5500e-003	9.6000e-004	6.0000e-005	1.0100e-003	0.0000	14.3849	14.3849	9.3000e-004	0.0000	14.4082
Vendor	1.6700e-003	0.0580	0.0170	2.0000e-004	5.2900e-003	7.0000e-005	5.3600e-003	1.5300e-003	6.0000e-005	1.5900e-003	0.0000	19.7150	19.7150	1.0900e-003	0.0000	19.7421
Worker	7.7400e-003	5.2900e-003	0.0623	2.1000e-004	0.0230	1.6000e-004	0.0232	6.1200e-003	1.5000e-004	6.2700e-003	0.0000	18.6277	18.6277	4.4000e-004	0.0000	18.6387
Total	**0.0104**	**0.0947**	**0.0894**	**5.6000e-004**	**0.0318**	**2.9000e-004**	**0.0321**	**8.6100e-003**	**2.7000e-004**	**8.8700e-003**	**0.0000**	**52.7276**	**52.7276**	**2.4600e-003**	**0.0000**	**52.7890**

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3.9 Site Preparation - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1987	0.0000	0.1987	0.1092	0.0000	0.1092	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.3028	0.2007	4.2000e-004		0.0139	0.0139		0.0128	0.0128	0.0000	36.7958	36.7958	0.0119	0.0000	37.0933
Total	**0.0293**	**0.3028**	**0.2007**	**4.2000e-004**	**0.1987**	**0.0139**	**0.2127**	**0.1092**	**0.0128**	**0.1221**	**0.0000**	**36.7958**	**36.7958**	**0.0119**	**0.0000**	**37.0933**

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	4.4000e-004	0.0152	4.4600e-003	5.0000e-005	1.3900e-003	2.0000e-005	1.4000e-003	4.0000e-004	2.0000e-005	4.2000e-004	0.0000	5.1635	5.1635	2.8000e-004	0.0000	5.1706
Worker	4.8600e-003	3.3200e-003	0.0392	1.3000e-004	0.0145	1.0000e-004	0.0146	3.8500e-003	9.0000e-005	3.9400e-003	0.0000	11.7089	11.7089	2.8000e-004	0.0000	11.7157
Total	**5.3000e-003**	**0.0185**	**0.0436**	**1.8000e-004**	**0.0159**	**1.2000e-004**	**0.0160**	**4.2500e-003**	**1.1000e-004**	**4.3600e-003**	**0.0000**	**16.8723**	**16.8723**	**5.6000e-004**	**0.0000**	**16.8863**

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3.9 Site Preparation - Phases 2 and 3 - 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					
Fugitive Dust					0.1987	0.0000	0.1987	0.1092	0.0000	0.1092	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.3028	0.2007	4.2000e-004		0.0139	0.0139		0.0128	0.0128	0.0000	36.7957	36.7957	0.0119	0.0000	37.0932
Total	**0.0293**	**0.3028**	**0.2007**	**4.2000e-004**	**0.1987**	**0.0139**	**0.2127**	**0.1092**	**0.0128**	**0.1221**	**0.0000**	**36.7957**	**36.7957**	**0.0119**	**0.0000**	**37.0932**

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	4.4000e-004	0.0152	4.4500e-003	5.0000e-005	1.3900e-003	2.0000e-005	1.4000e-003	4.0000e-004	2.0000e-005	4.2000e-004	0.0000	5.1635	5.1635	2.0000e-004	0.0000	5.1706
Worker	4.8600e-003	3.3200e-003	0.0392	1.3000e-004	0.0145	1.0000e-004	0.0146	3.8500e-003	9.0000e-005	3.9400e-003	0.0000	11.7089	11.7089	2.8000e-004	0.0000	11.7157
Total	**5.3000e-003**	**0.0185**	**0.0436**	**1.8000e-004**	**0.0159**	**1.2000e-004**	**0.0160**	**4.2500e-003**	**1.1000e-004**	**4.3600e-003**	**0.0000**	**16.8723**	**16.8723**	**5.6000e-004**	**0.0000**	**16.8863**

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3.10 Grading - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1386	0.0000	0.1386	0.0709	0.0000	0.0709	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0359	0.3767	0.3098	6.2000e-004		0.0163	0.0163		0.0150	0.0150	0.0000	54.7273	54.7273	0.0177	0.0000	55.1698
Total	**0.0359**	**0.3767**	**0.3098**	**6.2000e-004**	**0.1386**	**0.0163**	**0.1548**	**0.0709**	**0.0150**	**0.0858**	**0.0000**	**54.7273**	**54.7273**	**0.0177**	**0.0000**	**55.1698**

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	4.9000e-003	0.1642	0.0524	7.6000e-004	0.0183	3.0000e-004	0.0186	5.0100e-003	2.9000e-004	5.3000e-003	0.0000	75.2902	75.2902	4.0900e-003	0.0000	75.4125
Vendor	8.4000e-004	0.0290	8.5100e-003	1.0000e-004	2.6500e-003	3.0000e-005	2.8800e-003	7.6000e-004	3.0000e-005	8.0000e-004	0.0000	9.8575	9.8575	5.4000e-004	0.0000	9.8711
Worker	0.0124	8.4600e-003	0.0997	3.3000e-004	0.0369	2.6000e-004	0.0371	9.7900e-003	2.4000e-004	0.0100	0.0000	29.8044	29.8044	7.0000e-004	0.0000	29.8219
Total	**0.0181**	**0.2017**	**0.1606**	**1.1900e-003**	**0.0578**	**5.9000e-004**	**0.0584**	**0.0156**	**5.6000e-004**	**0.0161**	**0.0000**	**114.9521**	**114.9521**	**6.1300e-003**	**0.0000**	**115.1055**

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3.10 Grading - Phases 2 and 3 - 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					
Fugitive Dust					0.1386	0.0000	0.1386	0.0709	0.0000	0.0709	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0359	0.3767	0.3098	6.2000e-004		0.0163	0.0163		0.0150	0.0150	0.0000	54.7272	54.7272	0.0177	0.0000	55.1697
Total	0.0359	0.3767	0.3098	6.2000e-004	0.1386	0.0163	0.1548	0.0709	0.0150	0.0858	0.0000	54.7272	54.7272	0.0177	0.0000	55.1697

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	4.9000e-003	0.1642	0.0524	7.6000e-004	0.0183	3.0000e-004	0.0186	5.0100e-003	2.9000e-004	5.3000e-003	0.0000	75.2902	75.2902	4.8900e-003	0.0000	75.4125
Vendor	8.4000e-004	0.0290	6.5100e-003	1.0000e-004	2.6500e-003	3.0000e-006	2.6800e-003	7.6000e-004	3.0000e-005	8.0000e-004	0.0000	9.8575	9.8575	5.4000e-004	0.0000	9.8711
Worker	0.0124	8.4600e-003	0.0997	3.3000e-004	0.0369	2.6000e-004	0.0371	9.7900e-003	2.4000e-004	0.0100	0.0000	29.8044	29.8044	7.0000e-004	0.0000	29.8219
Total	0.0181	0.2017	0.1606	1.1900e-003	0.0578	5.9000e-004	0.0584	0.0156	5.6000e-004	0.0161	0.0000	114.9521	114.9521	6.1300e-003	0.0000	115.1055

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3.11 Building Construction - Phases 2 and 3 - 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	0.1195	1.0933	1.2345	2.0500e-003		0.0532	0.0532		0.0500	0.0500	0.0000	176.1716	176.1716	0.0419	0.0000	177.2193
Total	**0.1195**	**1.0933**	**1.2345**	**2.0500e-003**		**0.0532**	**0.0532**		**0.0500**	**0.0500**	**0.0000**	**176.1716**	**176.1716**	**0.0419**	**0.0000**	**177.2193**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0800e-003	0.3149	0.0924	1.1000e-003	0.0287	3.6000e-004	0.0291	8.2900e-003	3.4000e-004	8.6400e-003	0.0000	107.0244	107.0244	5.8900e-003	0.0000	107.1716
Worker	0.0840	0.0574	0.6764	2.2400e-003	0.2502	1.7700e-003	0.2519	0.0664	1.6300e-003	0.0681	0.0000	202.2438	202.2438	4.7600e-003	0.0000	202.3627
Total	**0.0931**	**0.3722**	**0.7689**	**3.3400e-003**	**0.2789**	**2.1300e-003**	**0.2810**	**0.0747**	**1.9700e-003**	**0.0767**	**0.0000**	**309.2681**	**309.2681**	**0.0107**	**0.0000**	**309.5343**

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3.11 Building Construction - Phases 2 and 3 - 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	0.1195	1.0933	1.2345	2.0500e-003		0.0532	0.0532		0.0500	0.0500	0.0000	176.1714	176.1714	0.0419	0.0000	177.2191
Total	**0.1195**	**1.0933**	**1.2345**	**2.0500e-003**		**0.0532**	**0.0532**		**0.0500**	**0.0500**	**0.0000**	**176.1714**	**176.1714**	**0.0419**	**0.0000**	**177.2191**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0800e-003	0.3148	0.0924	1.1000e-003	0.0287	3.6000e-004	0.0291	8.2900e-003	3.4000e-004	8.6400e-003	0.0000	107.0244	107.0244	5.8900e-003	0.0000	107.1716
Worker	0.0840	0.0574	0.6764	2.2400e-003	0.2502	1.7700e-003	0.2519	0.0664	1.5300e-003	0.0681	0.0000	202.2438	202.2438	4.7600e-003	0.0000	202.3627
Total	**0.0931**	**0.3722**	**0.7689**	**3.3400e-003**	**0.2789**	**2.1300e-003**	**0.2810**	**0.0747**	**1.9700e-003**	**0.0767**	**0.0000**	**309.2681**	**309.2681**	**0.0107**	**0.0000**	**309.5343**

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3.11 Building Construction - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0809	0.7394	0.8692	1.4800e-003		0.0337	0.0337		0.0317	0.0317	0.0000	127.5170	127.5170	0.0302	0.0000	128.2709
Total	**0.0809**	**0.7394**	**0.8692**	**1.4800e-003**		**0.0337**	**0.0337**		**0.0317**	**0.0317**	**0.0000**	**127.5170**	**127.5170**	**0.0302**	**0.0000**	**128.2709**

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	6.4300e-003	0.2273	0.0650	7.9000e-004	0.0208	2.6000e-004	0.0211	6.0000e-003	2.4000e-004	6.2500e-003	0.0000	77.1782	77.1782	4.1900e-003	0.0000	77.2831
Worker	0.0576	0.0379	0.4566	1.5600e-003	0.1810	1.2700e-003	0.1823	0.0481	1.1700e-003	0.0492	0.0000	141.5441	141.5441	3.1500e-003	0.0000	141.6229
Total	**0.0641**	**0.2651**	**0.5216**	**2.3500e-003**	**0.2018**	**1.5300e-003**	**0.2034**	**0.0541**	**1.4100e-003**	**0.0555**	**0.0000**	**218.7223**	**218.7223**	**7.3400e-003**	**0.0000**	**218.9060**

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3.11 Building Construction - Phases 2 and 3 - 2024

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	0.0809	0.7394	0.8892	1.4800e-003		0.0337	0.0337		0.0317	0.0317	0.0000	127.5169	127.5169	0.0302	0.0000	128.2707
Total	**0.0809**	**0.7394**	**0.8892**	**1.4800e-003**		**0.0337**	**0.0337**		**0.0317**	**0.0317**	**0.0000**	**127.5169**	**127.5169**	**0.0302**	**0.0000**	**128.2707**

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	6.4300e-003	0.2273	0.0650	7.8000e-004	0.0208	2.6000e-004	0.0211	6.0000e-003	2.4000e-004	6.2500e-003	0.0000	77.1782	77.1782	4.1900e-003	0.0000	77.2831
Worker	0.0576	0.0378	0.4566	1.5600e-003	0.1810	1.2700e-003	0.1823	0.0481	1.1700e-003	0.0492	0.0000	141.5441	141.5441	3.1500e-003	0.0000	141.6229
Total	**0.0641**	**0.2651**	**0.5216**	**2.3500e-003**	**0.2018**	**1.5300e-003**	**0.2034**	**0.0541**	**1.4100e-003**	**0.0555**	**0.0000**	**218.7223**	**218.7223**	**7.3400e-003**	**0.0000**	**218.9060**

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12 Paving - Phases 2 and 3 - 2024

ımitigated 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	0.0213	0.2048	0.3145	4.9000e-004		0.0101	0.0101		9.2700e-003	9.2700e-003	0.0000	43.0570	43.0570	0.0139	0.0000	43.4052
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0213**	**0.2048**	**0.3145**	**4.9000e-004**		**0.0101**	**0.0101**		**9.2700e-003**	**9.2700e-003**	**0.0000**	**43.0570**	**43.0570**	**0.0139**	**0.0000**	**43.4052**

ımitigated 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	8.4600e-004	0.0296	8.4600e-003	1.0000e-004	2.7100e-003	3.0000e-005	2.7400e-003	7.8000e-004	3.0000e-005	8.1000e-004	0.0000	10.0566	10.0566	5.5000e-004	0.0000	10.0702
Worker	6.0100e-003	3.9400e-003	0.0476	1.6000e-004	0.0189	1.3000e-004	0.0190	5.0100e-003	1.2000e-004	5.1300e-003	0.0000	14.7549	14.7549	3.3000e-004	0.0000	14.7631
Total	**6.8500e-003**	**0.0336**	**0.0561**	**2.6000e-004**	**0.0216**	**1.6000e-004**	**0.0217**	**5.7900e-003**	**1.5000e-004**	**5.9400e-003**	**0.0000**	**24.8115**	**24.8115**	**8.8000e-004**	**0.0000**	**24.8333**

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3.12 Paving - Phases 2 and 3 - 2024

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	0.0213	0.2048	0.3145	4.9000e-004		0.0101	0.0101		9.2700e-003	9.2700e-003	0.0000	43.0570	43.0570	0.0139	0.0000	43.4051
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0213**	**0.2048**	**0.3145**	**4.9000e-004**		**0.0101**	**0.0101**		**9.2700e-003**	**9.2700e-003**	**0.0000**	**43.0570**	**43.0570**	**0.0139**	**0.0000**	**43.4051**

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	6.4000e-004	0.0296	8.4800e-003	1.0000e-004	2.7100e-003	3.0000e-005	2.7400e-003	7.8000e-004	3.0000e-005	8.1000e-004	0.0000	10.0566	10.0566	5.5000e-004	0.0000	10.0702
Worker	6.0100e-003	3.9400e-003	0.0476	1.6000e-004	0.0189	1.3000e-004	0.0190	5.0100e-003	1.2000e-004	5.1300e-003	0.0000	14.7549	14.7549	3.3000e-004	0.0000	14.7631
Total	**6.6500e-003**	**0.0336**	**0.0561**	**2.6000e-004**	**0.0216**	**1.6000e-004**	**0.0217**	**5.7900e-003**	**1.5000e-004**	**5.9400e-003**	**0.0000**	**24.8115**	**24.8115**	**8.8000e-004**	**0.0000**	**24.8333**

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3.13 Architectural Coating - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0744					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8900e-003	0.0262	0.0389	6.0000e-005		1.3100e-003	1.3100e-003		1.3100e-003	1.3100e-003	0.0000	5.4895	5.4895	3.1000e-004	0.0000	5.4972
Total	**1.0783**	**0.0262**	**0.0389**	**6.0000e-005**		**1.3100e-003**	**1.3100e-003**		**1.3100e-003**	**1.3100e-003**	**0.0000**	**5.4895**	**5.4895**	**3.1000e-004**	**0.0000**	**5.4972**

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	1.6800e-003	0.0592	0.0169	2.1000e-004	5.4200e-003	7.0000e-005	5.4900e-003	1.5600e-003	6.0000e-005	1.6300e-003	0.0000	20.1131	20.1131	1.0900e-003	0.0000	20.1404
Worker	0.0180	0.0118	0.1428	4.9000e-004	0.0566	4.0000e-004	0.0570	0.0150	3.6000e-004	0.0154	0.0000	44.2647	44.2647	9.9000e-004	0.0000	44.2894
Total	**0.0197**	**0.0711**	**0.1597**	**7.0000e-004**	**0.0620**	**4.7000e-004**	**0.0625**	**0.0166**	**4.2000e-004**	**0.0170**	**0.0000**	**64.3778**	**64.3778**	**2.0800e-003**	**0.0000**	**64.4298**

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3.13 Architectural Coating - Phases 2 and 3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0744					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8900e-003	0.0262	0.0389	6.0000e-005		1.3100e-003	1.3100e-003		1.3100e-003	1.3100e-003	0.0000	5.4895	5.4895	3.1000e-004	0.0000	5.4972
Total	**1.0783**	**0.0262**	**0.0389**	**6.0000e-005**		**1.3100e-003**	**1.3100e-003**		**1.3100e-003**	**1.3100e-003**	**0.0000**	**5.4895**	**5.4895**	**3.1000e-004**	**0.0000**	**5.4972**

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	1.6800e-003	0.0602	0.0169	2.1000e-004	5.4200e-003	7.0000e-005	5.4900e-003	1.5600e-003	6.0000e-005	1.6200e-003	0.0000	20.1131	20.1131	1.0900e-003	0.0000	20.1404
Worker	0.0180	0.0110	0.1428	4.9000e-004	0.0566	4.0000e-004	0.0570	0.0150	3.6000e-004	0.0154	0.0000	44.2647	44.2647	9.9000e-004	0.0000	44.2894
Total	**0.0197**	**0.0711**	**0.1597**	**7.0000e-004**	**0.0620**	**4.7000e-004**	**0.0625**	**0.0166**	**4.2000e-004**	**0.0170**	**0.0000**	**64.3778**	**64.3778**	**2.0800e-003**	**0.0000**	**64.4298**

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	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	0.5540	2.7968	6.6649	0.0275	2.4727	0.0200	2.4927	0.6625	0.0188	0.6810	0.0000	2,560.3837	2,560.3837	0.1146	0.0000	2,563.2478
Unmitigated	0.5540	2.7960	6.6649	0.0275	2.4727	0.0200	2.4927	0.6625	0.0188	0.6810	0.0000	2,560.3837	2,560.3837	0.1146	0.0000	2,563.2478

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,362.34	1,304.48	1325.52	4,601,434	4,601,434
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	890.51	1,479.02	1018.86	1,352,980	1,352,980
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	263.17	308.60	171.62	554,321	554,321
Total	2,516.01	3,089.10	2,516.00	6,508,735	6,508,735

4.3 Trip Type Information

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	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
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.40	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Enclosed Parking with Elevator	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
High Turnover (Sit Down Restaurant)	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Other Asphalt Surfaces	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Regional Shopping Center	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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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	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	797.4761	797.4761	0.0264	7.1000e-003	800.3011
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	797.4761	797.4761	0.0264	7.1000e-003	800.3011
NaturalGas Mitigated	0.0218	0.1894	0.1017	1.1900e-003		0.0151	0.0151		0.0151	0.0151	0.0000	215.8469	215.8469	4.1400e-003	3.9600e-003	217.1315
NaturalGas Unmitigated	0.0218	0.1894	0.1017	1.1900e-003		0.0151	0.0151		0.0151	0.0151	0.0000	215.8469	215.8469	4.1400e-003	3.9600e-003	217.1315

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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					
Apartments Mid Rise	3.00542e+006	0.0162	0.1385	0.0589	8.8000e-004		0.0112	0.0112		0.0112	0.0112	0.0000	160.3808	160.3808	3.0700e-003	2.9400e-003	161.3338
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	1.02483e+006	5.5300e-003	0.0502	0.0422	3.0000e-004		3.8200e-003	3.8200e-003		3.8200e-003	3.8200e-003	0.0000	54.6890	54.6890	1.0500e-003	1.0000e-003	55.0140
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
Regional Shopping Center	14600	8.0000e-005	7.2000e-004	6.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7791	0.7791	1.0000e-005	1.0000e-005	0.7837
Total		**0.0218**	**0.1895**	**0.1017**	**1.1800e-003**		**0.0151**	**0.0151**		**0.0151**	**0.0151**	**0.0000**	**215.8489**	**215.8489**	**4.1300e-003**	**3.9500e-003**	**217.1315**

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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					
Apartments Mid Rise	3.00542e+006	0.0162	0.1385	0.0589	8.8000e-004		0.0112	0.0112		0.0112	0.0112	0.0000	160.3808	160.3808	3.0700e-003	2.9400e-003	161.3338
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	1.02483e+006	5.5200e-003	0.0502	0.0422	3.0000e-004		3.8200e-003	3.8200e-003		3.8200e-003	3.8200e-003	0.0000	54.6890	54.6890	1.0500e-003	1.0000e-003	55.0340
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
Regional Shopping Center	14600	8.0000e-005	7.2000e-004	6.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7791	0.7791	1.0000e-005	1.0000e-005	0.7637
Total		**0.0218**	**0.1895**	**0.1017**	**1.1800e-003**		**0.0151**	**0.0151**		**0.0151**	**0.0151**	**0.0000**	**215.8488**	**215.8488**	**4.1300e-003**	**3.9500e-003**	**217.1315**

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.0455e+006	266.4096	9.4800e-003	2.3700e-003	267.3534
Enclosed Parking with Elevator	1.66645e+006	473.0500	0.0168	4.2100e-003	474.7258
High Turnover (Sit Down Restaurant)	144169	36.7364	1.3100e-003	3.3000e-004	36.8665
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	83512	21.2801	7.6000e-004	1.9000e-004	21.3565
Total		**797.4761**	**0.0284**	**7.1000e-003**	**800.3011**

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.0455e+006	266.4096	9.4800e-003	2.3700e-003	267.3534
Enclosed Parking with Elevator	1.66645e+006	473.0500	0.0168	4.2100e-003	474.7258
High Turnover (Sit Down Restaurant)	144169	36.7364	1.3100e-003	3.3000e-004	36.8665
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	83512	21.2801	7.6000e-004	1.9000e-004	21.3565
Total		**797.4761**	**0.0284**	**7.1000e-003**	**800.3011**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	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	1.4385	0.0313	2.7201	1.4000e-004		0.0151	0.0151		0.0151	0.0151	0.0000	4.4507	4.4507	4.3000e-003	0.0000	4.5580
Unmitigated	1.4385	0.0313	2.7201	1.4000e-004		0.0151	0.0151		0.0151	0.0151	0.0000	4.4507	4.4507	4.3000e-003	0.0000	4.5580

6.2 Area by SubCategory

<u>Unmitigated</u>

	ROG	NOx	CO	SO2	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	0.1126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2437					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0823	0.0313	2.7201	1.4000e-004		0.0151	0.0151		0.0151	0.0151	0.0000	4.4507	4.4507	4.3000e-003	0.0000	4.5580
Total	**1.4385**	**0.0313**	**2.7201**	**1.4000e-004**		**0.0151**	**0.0151**		**0.0151**	**0.0151**	**0.0000**	**4.4507**	**4.4507**	**4.3000e-003**	**0.0000**	**4.5580**

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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	0.1126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2437					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0823	0.0313	2.7201	1.4000e-004		0.0151	0.0151		0.0151	0.0151	0.0000	4.4507	4.4507	4.3000e-003	0.0000	4.5580
Total	**1.4385**	**0.0313**	**2.7201**	**1.4000e-004**		**0.0151**	**0.0151**		**0.0151**	**0.0151**	**0.0000**	**4.4507**	**4.4507**	**4.3000e-003**	**0.0000**	**4.5580**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	101.5108	0.6283	0.0156	121.8697
Unmitigated	101.5108	0.6283	0.0156	121.8697

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	17.1355 / 10.8028	92.8736	0.5615	0.0140	111.0712
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	1.50249 / 0.0959037	5.7334	0.0492	1.2000e-003	7.3204
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.540729 / 0.331415	2.9039	0.0177	4.4000e-004	3.4780
Total		**101.5108**	**0.6283**	**0.0156**	**121.8697**

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.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	17.1355 / 10.8028	92.8736	0.5615	0.0140	111.0715
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	1.50249 / 0.0958037	5.7334	0.0492	1.2000e-003	7.3204
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.540729 / 0.331415	2.9039	0.0177	4.4000e-004	3.4780
Total		101.5108	0.6283	0.0156	121.8697

.0 Waste Detail

.1 Mitigation Measures Waste

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	38.0730	2.2501	0.0000	94.3242
Unmitigated	38.0730	2.2501	0.0000	94.3242

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	120.98	24.5579	1.4513	0.0000	60.8410
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	58.91	11.9582	0.7067	0.0000	29.6259
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	7.67	1.5569	0.0920	0.0000	3.8573
Total		38.0730	2.2501	0.0000	94.3242

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	120.98	24.5579	1.4513	0.0000	60.8410
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	58.91	11.9582	0.7067	0.0000	29.6259
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	7.67	1.5569	0.0920	0.0000	3.8573
Total		38.0730	2.2501	0.0000	94.3242

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

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User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

Pacific Coast Commons Specific Plan Project

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	792.00	Space	0.00	316,800.00	0
Other Asphalt Surfaces	12.65	1000sqft	0.00	12,650.00	0
High Turnover (Sit Down Restaurant)	4.95	1000sqft	0.00	3,962.00	0
Apartments Mid Rise	263.00	Dwelling Unit	0.00	327,021.00	752
Regional Shopping Center	7.30	1000sqft	5.35	7,300.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 31

Climate Zone 8 **Operational Year** 2025

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 561.77 **CH4 Intensity (lb/MWhr)** 0.02 **N2O Intensity (lb/MWhr)** 0.005

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding underestimated land use sizes.

Construction Phase - Consistent with the DEIR's model.

Trips and VMT - See SWAPE comment regarding hauling trips. Worker and vendor trips consistent with the DEIR's model.

On-road Fugitive Dust -

Demolition - See SWAPE comment regarding demolition.

Grading - See SWAPE comment regarding acres of grading values, material mositure content, and material silt content. Material export consistent with the DEIR's model.

Architectural Coating - Architectural coating EFs consistent with the DEIR's model. See SWAPE comment regarding architectural coating areas.

Vehicle Trips - See SWAPE comment regarding operational vehicle trip rates.

Woodstoves - Consistent with the DEIR's model.

Area Coating - See SWAPE comment regarding area coating areas.

Energy Use -

Water And Wastewater - See SWAPE comment regarding wastewater treatment percentages.

Construction Off-road Equipment Mitigation - See SWAPE comment regarding construction-related mitigation measures.

Mobile Land Use Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	230.00	262.00

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tblConstructionPhase	NumDays	230.00	195.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	10.00	22.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	223.55	237.00
tblFireplaces	NumberNoFireplace	26.30	26.00
tblFireplaces	NumberWood	13.15	0.00
tblGrading	MaterialExported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	4,950.00	3,952.00
tblLandUse	LandUseSquareFeet	263,000.00	327,021.00
tblLandUse	LotAcreage	7.13	0.00
tblLandUse	LotAcreage	0.29	0.00
tblLandUse	LotAcreage	0.11	0.00
tblLandUse	LotAcreage	6.92	0.00
tblLandUse	LotAcreage	0.17	5.35
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.02
tblProjectCharacteristics	CO2IntensityFactor	702.44	561.77
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	84.00	60.00

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Cont.

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tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	84.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	15.00	60.00
tblTripsAndVMT	WorkerTripNumber	332.00	300.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	66.00	240.00
tblTripsAndVMT	WorkerTripNumber	18.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	332.00	120.00
tblTripsAndVMT	WorkerTripNumber	15.00	40.00
tblTripsAndVMT	WorkerTripNumber	66.00	80.00
tblTripsAndVMT	WorkerTripNumber	15.00	100.00
tblTripsAndVMT	WorkerTripNumber	18.00	120.00
tblTripsAndVMT	WorkerTripNumber	15.00	160.00
tblVehicleTrips	HS_TTP	19.20	19.40
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	4.96
tblVehicleTrips	ST_TR	158.37	298.59
tblVehicleTrips	ST_TR	49.97	42.00

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tblVehicleTrips	SU_TR	5.86	5.04
tblVehicleTrips	SU_TR	131.84	205.63
tblVehicleTrips	SU_TR	25.24	23.51
tblVehicleTrips	WD_TR	6.65	5.18
tblVehicleTrips	WD_TR	127.15	179.90
tblVehicleTrips	WD_TR	42.70	38.05
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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					
2021	4.1271	41.5877	26.0668	0.0676	18.6891	2.0505	20.7396	10.0973	1.8865	11.9839	0.0000	6,782.5210	6,782.5210	1.2234	0.0000	6,812.9879
2022	50.6983	21.9683	21.2160	0.0474	7.5106	0.9489	8.4595	3.6231	0.8731	4.4961	0.0000	4,645.7797	4,645.7797	0.9663	0.0000	4,663.0756
2023	3.1451	29.1616	27.0612	0.0877	19.5356	1.2769	20.8125	10.3233	1.1748	11.4981	0.0000	9,024.1619	9,024.1619	1.2494	0.0000	9,055.3777
2024	52.3840	18.1519	27.1750	0.0723	3.9608	0.6409	4.5194	1.0692	0.6026	1.6023	0.0000	7,235.9735	7,235.9735	0.8826	0.0000	7,258.0419
Maximum	**52.3840**	**41.5877**	**27.1750**	**0.0877**	**19.5356**	**2.0505**	**20.8125**	**10.3233**	**1.8865**	**11.9839**	**0.0000**	**9,024.1619**	**9,024.1619**	**1.2494**	**0.0000**	**9,055.3777**

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2.1 Overall Construction (Maximum Daily Emission)

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					
2021	4.1271	41.5877	26.0668	0.0676	18.6891	2.0505	20.7396	10.0973	1.8865	11.9839	0.0000	6,782.5210	6,782.5210	1.2234	0.0000	6,812.9879
2022	50.6983	21.9683	21.2160	0.0474	7.5106	0.9489	8.4595	3.6231	0.8731	4.4961	0.0000	4,645.7797	4,645.7797	0.9663	0.0000	4,663.0756
2023	3.1451	29.1616	27.0612	0.0877	19.5356	1.2769	20.8125	10.3233	1.1748	11.4981	0.0000	9,024.1619	9,024.1619	1.2494	0.0000	9,055.3777
2024	52.3840	18.1519	27.1750	0.0723	3.9608	0.6409	4.5194	1.0692	0.6026	1.6023	0.0000	7,235.9735	7,235.9735	0.8826	0.0000	7,258.0419
Maximum	**52.3840**	**41.5877**	**27.1750**	**0.0877**	**19.5356**	**2.0505**	**20.8125**	**10.3233**	**1.8865**	**11.9839**	**0.0000**	**9,024.1619**	**9,024.1619**	**1.2494**	**0.0000**	**9,055.3777**

	ROG	NOx	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

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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	8.5499	4.1819	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.0716	5,058.0716	0.1341	0.0920	5,088.8429
Energy	0.1195	1.0380	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.7404	1,303.7404	0.0250	0.0239	1,311.4879
Mobile	3.9048	17.6168	43.6820	0.1781	15.5725	0.1246	15.6971	4.1658	0.1157	4.2815		18,192.4041	18,192.4041	0.7958		18,212.3001
Total	**12.5742**	**22.8367**	**67.6720**	**0.2109**	**15.5725**	**0.6456**	**16.2181**	**4.1658**	**0.6367**	**4.8025**	**0.0000**	**24,554.2161**	**24,554.2161**	**0.9549**	**0.1159**	**24,612.6309**

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	8.5499	4.1819	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.0716	5,058.0716	0.1341	0.0920	5,088.8429
Energy	0.1195	1.0380	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.7404	1,303.7404	0.0250	0.0239	1,311.4879
Mobile	3.9048	17.6168	43.6820	0.1781	15.5725	0.1246	15.6971	4.1658	0.1157	4.2815		18,192.4041	18,192.4041	0.7958		18,212.3001
Total	**12.5742**	**22.8367**	**67.6720**	**0.2109**	**15.5725**	**0.6456**	**16.2181**	**4.1658**	**0.6367**	**4.8025**	**0.0000**	**24,554.2161**	**24,554.2161**	**0.9549**	**0.1159**	**24,612.6309**

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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	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition - Phase 1	Demolition	10/1/2021	10/31/2021	5	21	
2	Site Preparation - Phase 1	Site Preparation	11/1/2021	11/30/2021	5	22	
3	Grading - Phase 1	Grading	12/1/2021	1/31/2022	5	44	
4	Building Construction - Phase 1	Building Construction	2/1/2022	10/31/2022	5	195	
5	Paving - Phase 1	Paving	11/1/2022	12/31/2022	5	44	
6	Architectural Coating - Phase 1	Architectural Coating	11/1/2022	12/31/2022	5	44	
7	Demolition - Phases 2 and 3	Demolition	1/1/2023	2/28/2023	5	42	
8	Site Preparation - Phases 2 and 3	Site Preparation	3/1/2023	3/30/2023	5	22	
9	Grading - Phases 2 and 3	Grading	4/1/2023	5/30/2023	5	42	
10	Building Construction - Phases 2 and 3	Building Construction	6/1/2023	5/31/2024	5	262	
11	Paving - Phases 2 and 3	Paving	6/1/2024	7/31/2024	5	43	
12	Architectural Coating - Phases 2 and 3	Architectural Coating	6/1/2024	7/31/2024	5	43	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 662,218; Residential Outdoor: 220,739; Non-Residential Indoor: 18,378; Non-Residential Outdoor: 6,126; Striped Parking Area: 19,767 (Architectural Coating – sqft)

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OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition - Phase 1	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - Phase 1	Excavators	3	8.00	158	0.38
Demolition - Phase 1	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation - Phase 1	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation - Phase 1	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading - Phase 1	Excavators	1	8.00	158	0.38
Grading - Phase 1	Graders	1	8.00	187	0.41
Grading - Phase 1	Rubber Tired Dozers	1	8.00	247	0.40
Grading - Phase 1	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction - Phase 1	Cranes	1	7.00	231	0.29
Building Construction - Phase 1	Forklifts	3	8.00	89	0.20
Building Construction - Phase 1	Generator Sets	1	8.00	84	0.74
Building Construction - Phase 1	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction - Phase 1	Welders	1	8.00	46	0.45
Paving - Phase 1	Pavers	2	8.00	130	0.42
Paving - Phase 1	Paving Equipment	2	8.00	132	0.36
Paving - Phase 1	Rollers	2	6.00	80	0.38
Architectural Coating - Phase 1	Air Compressors	1	6.00	78	0.48
Demolition - Phases 2 and 3	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - Phases 2 and 3	Excavators	3	8.00	158	0.38
Demolition - Phases 2 and 3	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation - Phases 2 and 3	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation - Phases 2 and 3	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading - Phases 2 and 3	Excavators	1	8.00	158	0.38
Grading - Phases 2 and 3	Graders	1	8.00	187	0.41

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Cont.

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Grading - Phases 2 and 3	Rubber Tired Dozers		1	8.00	247	0.40
Grading - Phases 2 and 3	Tractors/Loaders/Backhoes		3	8.00	97	0.37
Building Construction - Phases 2 and 3	Cranes		1	7.00	231	0.29
Building Construction - Phases 2 and 3	Forklifts		3	8.00	89	0.20
Building Construction - Phases 2 and 3	Generator Sets		1	8.00	84	0.74
Building Construction - Phases 2 and 3	Tractors/Loaders/Backhoes		3	7.00	97	0.37
Building Construction - Phases 2 and 3	Welders		1	8.00	46	0.45
Paving - Phases 2 and 3	Pavers		2	8.00	130	0.42
Paving - Phases 2 and 3	Paving Equipment		2	8.00	132	0.36
Paving - Phases 2 and 3	Rollers		2	8.00	80	0.38
Architectural Coating - Phases 2 and 3	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
Demolition - Phase 1	6	80.00	20.00	406.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation - Phase 1	7	50.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phase 1	6	60.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phase 1	9	120.00	30.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving - Phase 1	6	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - Phase 1	1	60.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition - Phases 2 and 3	6	100.00	40.00	406.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation - Phases 2 and 3	7	120.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phases 2 and 3	6	160.00	20.00	2,125.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phases 2 and 3	9	300.00	60.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving - Phases 2 and 3	6	80.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - Phases 2 and 3	1	240.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

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3.1 Mitigation Measures Construction

3.2 Demolition - Phase 1 - 2021

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					4.1873	0.0000	4.1873	0.6340	0.0000	0.6340			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**4.1873**	**1.5513**	**5.7386**	**0.6340**	**1.4411**	**2.0751**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

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3.2 Demolition - Phase 1 - 2021

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	0.1403	4.8911	1.0354	0.0146	0.3378	0.0152	0.3530	0.0926	0.0145	0.1071		1,603.776 5	1,603.776 5	0.1070		1,606.451 4
Vendor	0.0557	1.9075	0.4527	5.1000e-003	0.1280	3.8400e-003	0.1318	0.0369	3.6700e-003	0.0406		544.8769	544.8769	0.0330		545.7009
Worker	0.3377	0.2190	3.0138	8.8900e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0800e-003	0.2432		885.9227	885.9227	0.0238		886.5182
Total	**0.5336**	**7.0176**	**4.5018**	**0.0288**	**1.3600**	**0.0256**	**1.3856**	**0.3666**	**0.0242**	**0.3908**		**3,034.576 1**	**3,034.576 1**	**0.1638**		**3,038.670 6**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1873	0.0000	4.1873	0.6340	0.0000	0.6340			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**4.1873**	**1.5513**	**5.7386**	**0.6340**	**1.4411**	**2.0751**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.2 Demolition - Phase 1 - 2021

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	0.1403	4.8911	1.0364	0.0148	0.3378	0.0157	0.3530	0.0926	0.0146	0.1071		1,603.776 5	1,603.776 5	0.1070		1,606.451 4
Vendor	0.0557	1.9075	0.4527	5.1000e-003	0.1280	3.8400e-003	0.1318	0.0369	3.6700e-003	0.0405		544.8769	544.8769	0.0330		545.7009
Worker	0.3377	0.2190	3.0138	8.8900e-003	0.8943	6.5800e-003	0.9008	0.2372	6.0600e-003	0.2432		885.9227	885.9227	0.0238		886.5182
Total	**0.5336**	**7.0176**	**4.5018**	**0.0288**	**1.3680**	**0.0256**	**1.3856**	**0.3666**	**0.0242**	**0.3908**		**3,034.576 1**	**3,034.576 1**	**0.1638**		**3,038.670 6**

3.3 Site Preparation - Phase 1 - 2021

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.3 Site Preparation - Phase 1 - 2021

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
Vendor	0.0278	0.9530	0.2263	2.6500e-003	0.0640	1.9200e-003	0.0659	0.0184	1.8400e-003	0.0202		272.4385	272.4385	0.0165		272.8605
Worker	0.2111	0.1376	1.8836	5.5600e-003	0.5589	4.1100e-003	0.5630	0.1482	3.7900e-003	0.1520		553.7017	553.7017	0.0149		554.0739
Total	**0.2389**	**1.0906**	**2.1100**	**8.1100e-003**	**0.6229**	**6.0300e-003**	**0.6289**	**0.1667**	**5.6300e-003**	**0.1723**		**826.1401**	**826.1401**	**0.0314**		**826.9344**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.3 Site Preparation - Phase 1 - 2021

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
Vendor	0.0278	0.9538	0.2263	2.5500e-003	0.0640	1.9200e-003	0.0659	0.0184	1.8400e-003	0.0203		272.4385	272.4385	0.0165		272.8505
Worker	0.2111	0.1369	1.8836	5.5600e-003	0.5589	4.1100e-003	0.5630	0.1482	3.7800e-003	0.1520		553.7017	553.7017	0.0149		554.0739
Total	**0.2389**	**1.0906**	**2.1100**	**8.1100e-003**	**0.6229**	**6.0300e-003**	**0.6289**	**0.1667**	**5.6300e-003**	**0.1723**		**826.1401**	**826.1401**	**0.0314**		**826.9244**

3.4 Grading - Phase 1 - 2021

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

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3.4 Grading - Phase 1 - 2021

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
Vendor	0.0278	0.9538	0.2263	2.5500e-003	0.0640	1.3200e-003	0.0653	0.0184	1.8400e-003	0.0203		272.4385	272.4385	0.0165		272.8505
Worker	0.3377	0.2190	3.0138	8.8900e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0600e-003	0.2432		885.9227	885.9227	0.0238		886.5182
Total	**0.3655**	**1.1728**	**3.2401**	**0.0114**	**0.9582**	**8.5000e-003**	**0.9667**	**0.2556**	**7.9000e-003**	**0.2635**		**1,158.361 1**	**1,158.361 1**	**0.0403**		**1,159.368 7**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**	**0.0000**	**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

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3.4 Grading - Phase 1 - 2021

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
Vendor	0.0278	0.9538	0.2263	2.5500e-003	0.0640	1.9200e-003	0.0659	0.0184	1.8400e-003	0.0203		272.4385	272.4385	0.0165		272.6805
Worker	0.3377	0.2190	3.0138	8.8900e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0600e-003	0.2432		885.9227	885.9227	0.0238		886.6882
Total	**0.3655**	**1.1728**	**3.2401**	**0.0114**	**0.9582**	**8.5000e-003**	**0.9667**	**0.2556**	**7.9000e-003**	**0.2635**		**1,158.361 1**	**1,158.361 1**	**0.0403**		**1,159.368 7**

3.4 Grading - Phase 1 - 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.046 4	2,872.046 4	0.9289		2,895.268 4
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5523**	**0.9409**	**7.4932**	**3.3675**	**0.8656**	**4.2331**		**2,872.046 4**	**2,872.046 4**	**0.9289**		**2,895.268 4**

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3.4 Grading - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0261	0.9053	0.2139	2.5300e-003	0.0640	1.5600e-003	0.0657	0.0184	1.5900e-003	0.0200		270.0591	270.0591	0.0159		270.4566
Worker	0.3168	0.1978	2.7868	8.5700e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		854.1791	854.1791	0.0215		854.7174
Total	**0.3429**	**1.1032**	**3.0007**	**0.0111**	**0.9582**	**8.0500e-003**	**0.9663**	**0.2556**	**7.4800e-003**	**0.2631**		**1,124.230 3**	**1,124.230 3**	**0.0374**		**1,125.173 2**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.046 4	2,872.046 4	0.9289		2,895.268 4
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5523**	**0.9409**	**7.4932**	**3.3675**	**0.8656**	**4.2331**	**0.0000**	**2,872.046 4**	**2,872.046 4**	**0.9289**		**2,895.268 4**

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3.4 Grading - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0261	0.9063	0.2139	2.6300e-003	0.0640	1.6600e-003	0.0657	0.0184	1.5900e-003	0.0200		270.0691	270.0691	0.0159		270.4658
Worker	0.3168	0.1970	2.7860	8.5700e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8200e-003	0.2430		854.1791	854.1791	0.0216		854.7174
Total	0.3429	1.1032	3.0007	0.0111	0.9582	8.0500e-003	0.9663	0.2556	7.4800e-003	0.2631		1,124.2383	1,124.2383	0.0374		1,125.1732

3.5 Building Construction - Phase 1 - 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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

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3.5 Building Construction - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0783	2.7160	0.6417	7.5900e-003	0.1920	4.9900e-003	0.1970	0.0553	4.7700e-003	0.0601		810.1774	810.1774	0.0476		811.3673
Worker	0.4751	0.2968	4.1802	0.0129	1.3413	9.6900e-003	1.3509	0.3557	8.9200e-003	0.3646		1,281.268 7	1,281.268 7	0.0323		1,282.076 1
Total	**0.5534**	**3.0128**	**4.8219**	**0.0204**	**1.5333**	**0.0146**	**1.5479**	**0.4110**	**0.0136**	**0.4246**		**2,091.446 1**	**2,091.446 1**	**0.0799**		**2,093.443 4**

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

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3.5 Building Construction - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0783	2.7160	0.6417	7.5800e-003	0.1920	4.9900e-003	0.1970	0.0553	4.7700e-003	0.0601		810.1774	810.1774	0.0476		811.3673
Worker	0.4751	0.2968	4.1802	0.0128	1.3413	9.6000e-003	1.3509	0.3557	8.8300e-003	0.3645		1,281.268 7	1,281.268 7	0.0323		1,282.076 1
Total	**0.5534**	**3.0128**	**4.8219**	**0.0204**	**1.5333**	**0.0146**	**1.5479**	**0.4110**	**0.0136**	**0.4246**		**2,091.446 1**	**2,091.446 1**	**0.0799**		**2,093.443 4**

3.6 Paving - Phase 1 - 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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.660 3**	**2,207.660 3**	**0.7140**		**2,225.510 4**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.6 Paving - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0261	0.9053	0.2139	2.5300e-003	0.0640	1.6600e-003	0.0657	0.0184	1.5900e-003	0.0200		270.0591	270.0591	0.0159		270.4558
Worker	0.1584	0.0989	1.3934	4.2900e-003	0.4471	3.2000e-003	0.4503	0.1186	2.9400e-003	0.1215		427.0896	427.0896	0.0108		427.3587
Total	**0.1845**	**1.0043**	**1.6073**	**6.8200e-003**	**0.5111**	**4.8600e-003**	**0.5160**	**0.1370**	**4.5300e-003**	**0.1415**		**697.1487**	**697.1487**	**0.0266**		**697.8145**

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	1.1026	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1026**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.660 3**	**2,207.660 3**	**0.7140**		**2,225.510 4**

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3.6 Paving - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0261	0.9053	0.2139	2.5300e-003	0.0640	1.6900e-003	0.0657	0.0184	1.6900e-003	0.0200		270.0591	270.0591	0.0159		270.4556
Worker	0.1584	0.0989	1.3934	4.2900e-003	0.4471	3.2000e-003	0.4503	0.1186	2.9400e-003	0.1215		427.0896	427.0896	0.0108		427.3587
Total	**0.1845**	**1.0043**	**1.6073**	**6.8200e-003**	**0.5111**	**4.8600e-003**	**0.5160**	**0.1370**	**4.5300e-003**	**0.1415**		**697.1487**	**697.1487**	**0.0266**		**697.8145**

3.7 Architectural Coating - Phase 1 - 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					
Archit. Coating	48.8375					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**49.0421**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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3.7 Architectural Coating - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0527	1.8107	0.4278	5.0600e-003	0.1788	3.3300e-003	0.1821	0.0368	3.1800e-003	0.0400		540.1183	540.1183	0.0317		540.9115
Worker	0.3163	0.1978	2.7868	8.5700e-003	0.8434	6.3900e-003	0.8497	0.2372	5.8900e-003	0.2430		854.1791	854.1791	0.0215		854.7174
Total	**0.3690**	**2.0085**	**3.2146**	**0.0136**	**1.0222**	**9.7200e-003**	**1.0319**	**0.2740**	**9.0700e-003**	**0.2831**		**1,394.2974**	**1,394.2974**	**0.0533**		**1,395.6289**

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	48.8375					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2046	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**49.0421**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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3.7 Architectural Coating - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0522	1.8107	0.4278	5.0600e-003	0.1280	3.3300e-003	0.1313	0.0368	3.1800e-003	0.0400		540.1183	540.1183	0.0317		540.9115
Worker	0.3168	0.1978	2.7868	8.5700e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		854.1791	854.1791	0.0216		854.7174
Total	**0.3690**	**2.0085**	**3.2146**	**0.0136**	**1.0222**	**9.7200e-003**	**1.0319**	**0.2740**	**9.0700e-003**	**0.2831**		**1,394.2974**	**1,394.2974**	**0.0533**		**1,395.6289**

3.8 Demolition - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0936	0.0000	2.0936	0.3170	0.0000	0.3170			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0380		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2103
Total	**2.2691**	**21.4844**	**19.6434**	**0.0380**	**2.0936**	**0.9975**	**3.0912**	**0.3170**	**0.9280**	**1.2450**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2103**

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3.8 Demolition - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0441	1.4618	0.4663	7.0100e-003	0.1689	2.7100e-003	0.1716	0.0463	2.5900e-003	0.0489		760.9963	760.9963	0.0484		762.2050
Vendor	0.0779	2.7377	0.7709	9.7900e-003	0.2560	3.0800e-003	0.2591	0.0737	2.9400e-003	0.0766		1,047.470 9	1,047.470 9	0.0553		1,048.854 3
Worker	0.3723	0.2238	3.2170	0.0103	1.1178	7.7800e-003	1.1256	0.2964	7.1700e-003	0.3035		1,027.930 2	1,027.930 2	0.0243		1,028.537 0
Total	**0.4942**	**4.4234**	**4.4541**	**0.0271**	**1.5427**	**0.0136**	**1.5563**	**0.4164**	**0.0127**	**0.4291**		**2,836.397 4**	**2,836.397 4**	**0.1280**		**2,839.596 3**

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					2.0936	0.0000	2.0936	0.3170	0.0000	0.3170			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.984 0	3,746.984 0	1.0494		3,773.218 3
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**2.0936**	**0.9975**	**3.0912**	**0.3170**	**0.9280**	**1.2450**	**0.0000**	**3,746.984 0**	**3,746.984 0**	**1.0494**		**3,773.218 3**

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3.8 Demolition - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0441	1.4618	0.4863	7.0100e-003	0.1583	2.7100e-003	0.1716	0.0463	2.5600e-003	0.0489		760.9963	760.9963	0.0484		762.2060
Vendor	0.0779	2.7377	0.7709	9.7900e-003	0.2560	3.0800e-003	0.2591	0.0737	2.9400e-003	0.0766		1,047.470 9	1,047.470 9	0.0559		1,048.854 3
Worker	0.3723	0.2238	3.2170	0.0103	1.1179	7.7800e-003	1.1256	0.2964	7.1700e-003	0.3036		1,027.930 2	1,027.930 2	0.0243		1,028.537 0
Total	**0.4942**	**4.4234**	**4.4511**	**0.0271**	**1.5427**	**0.0136**	**1.5563**	**0.4164**	**0.0127**	**0.4291**		**2,836.397 4**	**2,836.397 4**	**0.1280**		**2,839.596 3**

3.9 Site Preparation - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.0663**	**1.2660**	**19.3323**	**9.9307**	**1.1647**	**11.0954**		**3,687.308 1**	**3,687.308 1**	**1.1926**		**3,717.121 9**

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3.9 Site Preparation - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0389	1.3699	0.3954	4.9000e-003	0.1280	1.6400e-003	0.1295	0.0369	1.4700e-003	0.0383		523.7354	523.7354	0.0277		524.4272
Worker	0.4467	0.2685	3.8804	0.0124	1.3413	9.3400e-003	1.3507	0.3557	8.6000e-003	0.3643		1,233.5162	1,233.5162	0.0291		1,234.2444
Total	**0.4857**	**1.6374**	**4.2458**	**0.0173**	**1.4693**	**0.0109**	**1.4802**	**0.3926**	**0.0101**	**0.4026**		**1,757.2516**	**1,757.2516**	**0.0568**		**1,758.6716**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.0663**	**1.2660**	**19.3323**	**9.9307**	**1.1647**	**11.0954**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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3.9 Site Preparation - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0389	1.3689	0.3654	4.9000e-003	0.1280	1.5400e-003	0.1295	0.0368	1.4700e-003	0.0383		523.7364	523.7364	0.0277		524.4272
Worker	0.4467	0.2686	3.8804	0.0124	1.3413	9.3400e-003	1.3507	0.3557	8.6000e-003	0.3643		1,233.516 2	1,233.516 2	0.0291		1,234.244 4
Total	**0.4857**	**1.6374**	**4.2458**	**0.0173**	**1.4693**	**0.0109**	**1.4802**	**0.3926**	**0.0101**	**0.4026**		**1,757.251 6**	**1,757.251 6**	**0.0568**		**1,758.671 6**

3.10 Grading - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5981	0.0000	6.5981	3.3744	0.0000	3.3744			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.691 0	2,872.691 0	0.9291		2,895.918 2
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.5981**	**0.7749**	**7.3730**	**3.3744**	**0.7129**	**4.0873**		**2,872.691 0**	**2,872.691 0**	**0.9291**		**2,895.918 2**

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3.10 Grading - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2306	7.6612	2.4404	0.0367	0.8841	0.0142	0.8983	0.2423	0.0136	0.2559		3,983.047 2	3,983.047 2	0.2530		3,989.373 2
Vendor	0.0389	1.3489	0.3854	4.9000e-003	0.1280	1.5400e-003	0.1296	0.0369	1.4700e-003	0.0383		523.7354	523.7354	0.0277		524.4272
Worker	0.5957	0.3680	5.1471	0.0165	1.7884	0.0125	1.8009	0.4743	0.0115	0.4858		1,644.688 3	1,644.688 3	0.0388		1,645.659 2
Total	**0.8652**	**9.3781**	**7.9729**	**0.0581**	**2.8005**	**0.0282**	**2.8287**	**0.7534**	**0.0265**	**0.7799**		**6,151.470 9**	**6,151.470 9**	**0.3196**		**6,159.459 6**

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					6.5981	0.0000	6.5981	3.3744	0.0000	3.3744			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.910 2
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.5981**	**0.7749**	**7.3730**	**3.3744**	**0.7129**	**4.0873**	**0.0000**	**2,872.691 0**	**2,872.691 0**	**0.9291**		**2,895.910 2**

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3.10 Grading - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2306	7.6512	2.4404	0.0367	0.8841	0.0142	0.8983	0.2423	0.0136	0.2559		3,963.0472	3,963.0472	0.2530		3,989.3732
Vendor	0.0389	1.3599	0.3854	4.9000e-003	0.1280	1.5400e-003	0.1295	0.0369	1.4700e-003	0.0383		523.7364	523.7364	0.0277		524.4277
Worker	0.5957	0.3590	5.1471	0.0165	1.7884	0.0126	1.8009	0.4743	0.0115	0.4858		1,644.6883	1,644.6883	0.0388		1,645.6692
Total	**0.8652**	**9.3701**	**7.9729**	**0.0581**	**2.8005**	**0.0282**	**2.8287**	**0.7534**	**0.0265**	**0.7799**		**6,151.4709**	**6,151.4709**	**0.3196**		**6,159.4596**

3.11 Building Construction - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.11 Building Construction - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1168	4.1066	1.1563	0.0147	0.3840	4.6200e-003	0.3886	0.1106	4.4100e-003	0.1150		1,571.206 3	1,571.206 3	0.0830		1,573.281 6
Worker	1.1169	0.6713	9.6509	0.0309	3.3533	0.0234	3.3767	0.8893	0.0215	0.9108		3,083.790 5	3,083.790 5	0.0728		3,085.611 0
Total	**1.2337**	**4.7779**	**10.8072**	**0.0456**	**3.7373**	**0.0280**	**3.7653**	**0.9999**	**0.0259**	**1.0258**		**4,654.996 8**	**4,654.996 8**	**0.1558**		**4,658.892 5**

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	1.5720	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5720**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.11 Building Construction - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1168	4.1066	1.1563	0.0147	0.3940	4.6200e-003	0.3986	0.1106	4.4100e-003	0.1150		1,571.2063	1,571.2063	0.0830		1,573.2815
Worker	1.1169	0.6713	9.6509	0.0309	3.3433	0.0234	3.3667	0.8893	0.0215	0.9108		3,083.7905	3,083.7905	0.0728		3,085.6110
Total	**1.2337**	**4.7779**	**10.8072**	**0.0456**	**3.7373**	**0.0280**	**3.7653**	**0.9999**	**0.0259**	**1.0258**		**4,654.9968**	**4,654.9968**	**0.1558**		**4,658.8925**

3.11 Building Construction - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.11 Building Construction - Phases 2 and 3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1144	4.0964	1.1230	0.0146	0.3840	4.6700e-003	0.3886	0.1106	4.3700e-003	0.1149		1,565.509 7	1,565.509 7	0.0817		1,567.552 6
Worker	1.0570	0.6118	9.0151	0.0299	3.3533	0.0230	3.3763	0.0893	0.0212	0.9105		2,982.626 8	2,982.626 8	0.0668		2,984.295 7
Total	**1.1714**	**4.7082**	**10.1382**	**0.0445**	**3.7373**	**0.0276**	**3.7649**	**0.9999**	**0.0256**	**1.0254**		**4,548.136 5**	**4,548.136 5**	**0.1485**		**4,551.848 3**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.698 9	2,555.698 9	0.6044		2,570.807 7
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.698 9**	**2,555.698 9**	**0.6044**		**2,570.807 7**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.11 Building Construction - Phases 2 and 3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1144	4.0864	1.1230	0.0146	0.3848	4.5700e-003	0.3886	0.1106	4.3700e-003	0.1149		1,565.5097	1,565.5097	0.0817		1,567.5626
Worker	1.0570	0.6118	9.0151	0.0299	3.3535	0.0230	3.3763	0.8893	0.0212	0.9105		2,982.6268	2,982.6268	0.0668		2,984.2857
Total	**1.1714**	**4.7082**	**10.1382**	**0.0445**	**3.7373**	**0.0276**	**3.7649**	**0.9999**	**0.0256**	**1.0254**		**4,548.1365**	**4,548.1365**	**0.1485**		**4,551.8483**

3.12 Paving - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

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

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.12 Paving - Phases 2 and 3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0381	1.3655	0.3743	4.8700e-003	0.1280	1.5200e-003	0.1295	0.0368	1.4600e-003	0.0383		521.8365	521.8365	0.0272		522.5175
Worker	0.2819	0.1631	2.4040	7.9800e-003	0.8942	6.1500e-003	0.9004	0.2372	5.6600e-003	0.2428		795.3672	795.3672	0.0178		795.8122
Total	**0.3200**	**1.5286**	**2.7784**	**0.0129**	**1.0222**	**7.6700e-003**	**1.0299**	**0.2740**	**7.1200e-003**	**0.2811**		**1,317.2037**	**1,317.2037**	**0.0450**		**1,318.3297**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0226		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0226**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

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3.12 Paving - Phases 2 and 3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0381	1.3655	0.3743	4.8700e-003	0.1280	1.5200e-003	0.1295	0.0369	1.4500e-003	0.0383		521.9366	521.9366	0.0272		522.6175
Worker	0.2819	0.1631	2.4040	7.9800e-003	0.8942	6.1500e-003	0.9004	0.2372	5.6600e-003	0.2428		795.3672	795.3672	0.0178		795.8122
Total	**0.3200**	**1.5286**	**2.7784**	**0.0129**	**1.0222**	**7.6700e-003**	**1.0299**	**0.2740**	**7.1200e-003**	**0.2811**		**1,317.203 7**	**1,317.203 7**	**0.0450**		**1,318.329 7**

3.13 Architectural Coating - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	49.9733					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1806	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**50.1540**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.13 Architectural Coating - Phases 2 and 3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0762	2.7310	0.7487	9.7500e-003	0.2560	3.0500e-003	0.2591	0.0737	2.9100e-003	0.0766		1,043.673 1	1,043.673 1	0.0545		1,045.035 0
Worker	0.8456	0.4894	7.2121	0.0239	2.6826	0.0184	2.7011	0.7115	0.0170	0.7284		2,386.101 5	2,386.101 5	0.0534		2,387.436 6
Total	**0.9218**	**3.2204**	**7.9608**	**0.0337**	**2.9386**	**0.0215**	**2.9601**	**0.7852**	**0.0199**	**0.8050**		**3,429.774 6**	**3,429.774 6**	**0.1079**		**3,432.471 6**

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	49.9733					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1806	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**50.1540**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.13 Architectural Coating - Phases 2 and 3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0762	2.7310	0.7487	9.7500e-003	0.2560	3.0500e-003	0.2591	0.0737	2.9100e-003	0.0766		1,043.673 1	1,043.673 1	0.0545		1,045.036 0
Worker	0.8456	0.4894	7.2121	0.0239	2.6826	0.0184	2.7011	0.7115	0.0170	0.7284		2,386.101 5	2,386.101 5	0.0534		2,387.436 6
Total	**0.9218**	**3.2204**	**7.9608**	**0.0337**	**2.9386**	**0.0215**	**2.9601**	**0.7852**	**0.0199**	**0.8050**		**3,429.774 6**	**3,429.774 6**	**0.1079**		**3,432.471 6**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

	ROG	NOx	CO	SO2	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										MT/yr					
Mitigated	3.9048	17.6168	43.6820	0.1781	15.5725	0.1246	15.6971	4.1668	0.1157	4.2815		18,192.40 41	18,192.40 41	0.7958		18,212.30 01
Unmitigated	3.9048	17.6168	43.6820	0.1781	15.5725	0.1246	15.6971	4.1668	0.1157	4.2815		18,192.40 41	18,192.40 41	0.7958		18,212.30 01

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,362.34	1,304.48	1325.52	4,601,434	4,601,434
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	880.51	1,478.02	1018.86	1,352,980	1,352,980
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	263.17	306.60	171.62	554,321	554,321
Total	2,516.01	3,089.10	2,516.00	6,508,735	6,508,735

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.40	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.551360	0.042151	0.204257	0.114482	0.014138	0.005783	0.021875	0.035696	0.002143	0.001678	0.004899	0.000713	0.000825
Enclosed Parking with Elevator	0.551360	0.042151	0.204257	0.114482	0.014138	0.005783	0.021875	0.035696	0.002143	0.001678	0.004899	0.000713	0.000825
High Turnover (Sit Down Restaurant)	0.551360	0.042151	0.204257	0.114482	0.014138	0.005783	0.021875	0.035696	0.002143	0.001678	0.004899	0.000713	0.000825
Other Asphalt Surfaces	0.551360	0.042151	0.204257	0.114482	0.014138	0.005783	0.021875	0.035696	0.002143	0.001678	0.004899	0.000713	0.000825
Regional Shopping Center	0.551360	0.042151	0.204257	0.114482	0.014138	0.005783	0.021875	0.035696	0.002143	0.001678	0.004899	0.000713	0.000825

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1195	1.0380	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.740 4	1,303.740 4	0.0250	0.0239	1,311.487 9
NaturalGas Unmitigated	0.1195	1.0380	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.740 4	1,303.740 4	0.0250	0.0239	1,311.487 9

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

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					
Apartments Mid Rise	8234.03	0.0888	0.7588	0.3229	4.8400e-003		0.0614	0.0614		0.0614	0.0614		968.7097	968.7097	0.0186	0.0178	974.4563
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	2807.76	0.0303	0.2753	0.2312	1.6500e-003		0.0209	0.0209		0.0209	0.0209		330.3249	330.3249	6.3300e-003	6.0600e-003	332.2677
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
Regional Shopping Center	40	4.3000e-004	3.9200e-003	3.2900e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		4.7059	4.7059	9.0000e-005	9.0000e-005	4.7329
Total		**0.1195**	**1.0380**	**0.5574**	**6.5100e-003**		**0.0826**	**0.0826**		**0.0826**	**0.0826**		**1,303.740 4**	**1,303.740 4**	**0.0250**	**0.0239**	**1,311.487 9**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

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					
Apartments Mid Rise	8.23403	0.0888	0.7586	0.3229	4.8400e-003		0.0614	0.0614		0.0614	0.0614		968.7097	968.7097	0.0186	0.0178	974.4663
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	2.80776	0.0300	0.2763	0.2312	1.6500e-003		0.0209	0.0209		0.0209	0.0209		330.3240	330.3240	6.3300e-003	6.0600e-003	332.2877
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
Regional Shopping Center	0.04	4.3000e-004	3.9200e-003	3.2900e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		4.7059	4.7059	9.0000e-005	9.0000e-005	4.7339
Total		**0.1195**	**1.0380**	**0.5574**	**6.5100e-003**		**0.0826**	**0.0826**		**0.0826**	**0.0826**		**1,303.7404**	**1,303.7404**	**0.0250**	**0.0239**	**1,311.4879**

6.0 Area Detail

6.1 Mitigation Measures Area

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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	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.5499	4.1819	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.0716	5,058.0716	0.1341	0.0920	5,088.8429
Unmitigated	6.5499	4.1819	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.0716	5,058.0716	0.1341	0.0920	5,088.8429

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	0.6168					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.8145					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4601	3.9314	1.6729	0.0251		0.3179	0.3179		0.3179	0.3179	0.0000	5,018.8235	5,018.8235	0.0962	0.0920	5,048.6479
Landscaping	0.6585	0.2505	21.7605	1.1500e-003		0.1206	0.1206		0.1206	0.1206		39.2480	39.2480	0.0379		40.1950
Total	**8.5499**	**4.1819**	**23.4334**	**0.0262**		**0.4384**	**0.4384**		**0.4384**	**0.4384**	**0.0000**	**5,058.0716**	**5,058.0716**	**0.1341**	**0.0920**	**5,088.8429**

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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	0.6169					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.8145					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4601	3.9314	1.6729	0.0251		0.3179	0.3179		0.3179	0.3179	0.0000	5,018.823 5	5,018.823 5	0.0962	0.0920	5,048.647 8
Landscaping	0.6586	0.2506	21.7605	1.1500e-003		0.1206	0.1206		0.1206	0.1206		39.2480	39.2480	0.0379		40.1993
Total	**8.5499**	**4.1819**	**23.4334**	**0.0262**		**0.4384**	**0.4384**		**0.4384**	**0.4384**	**0.0000**	**5,058.071 6**	**5,058.071 6**	**0.1341**	**0.0920**	**5,088.842 9**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

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

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

Pacific Coast Commons Specific Plan Project

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	782.00	Space	0.00	316,800.00	0
Other Asphalt Surfaces	12.65	1000sqft	0.00	12,650.00	0
High Turnover (Sit Down Restaurant)	4.95	1000sqft	0.00	3,952.00	0
Apartments Mid Rise	263.00	Dwelling Unit	0.00	327,021.00	752
Regional Shopping Center	7.30	1000sqft	5.35	7,300.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 31

Climate Zone 8 **Operational Year** 2025

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 561.77 **CH4 Intensity (lb/MWhr)** 0.02 **N2O Intensity (lb/MWhr)** 0.005

1.3 User Entered Comments & Non-Default Data

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding underestimated land use sizes.

Construction Phase - Consistent with the DEIR's model.

Trips and VMT - See SWAPE comment regarding hauling trips. Worker and vendor trips consistent with the DEIR's model.

On-road Fugitive Dust -

Demolition - See SWAPE comment regarding demolition.

Grading - See SWAPE comment regarding acres of grading values, material mositure content, and material silt content. Material export consistent with the DEIR's model.

Architectural Coating - Architectural coating EFs consistent with the DEIR's model. See SWAPE comment regarding architectural coating areas.

Vehicle Trips - See SWAPE comment regarding operational vehicle trip rates.

Woodstoves - Consistent with the DEIR's model.

Area Coating - See SWAPE comment regarding area coating areas.

Energy Use -

Water And Wastewater - See SWAPE comment regarding wastewater treatment percentages.

Construction Off-road Equipment Mitigation - See SWAPE comment regarding construction-related mitigation measures.

Mobile Land Use Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	230.00	262.00

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tblConstructionPhase	NumDays	230.00	195.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	10.00	22.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	223.55	237.00
tblFireplaces	NumberNoFireplace	26.30	26.00
tblFireplaces	NumberWood	13.15	0.00
tblGrading	MaterialExported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	4,950.00	3,952.00
tblLandUse	LandUseSquareFeet	263,000.00	327,021.00
tblLandUse	LotAcreage	7.13	0.00
tblLandUse	LotAcreage	0.29	0.00
tblLandUse	LotAcreage	0.11	0.00
tblLandUse	LotAcreage	6.92	0.00
tblLandUse	LotAcreage	0.17	5.35
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.02
tblProjectCharacteristics	CO2IntensityFactor	702.44	561.77
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	84.00	60.00

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	84.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	332.00	300.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	66.00	240.00
tblTripsAndVMT	WorkerTripNumber	18.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	332.00	120.00
tblTripsAndVMT	WorkerTripNumber	15.00	40.00
tblTripsAndVMT	WorkerTripNumber	66.00	80.00
tblTripsAndVMT	WorkerTripNumber	15.00	100.00
tblTripsAndVMT	WorkerTripNumber	18.00	120.00
tblTripsAndVMT	WorkerTripNumber	15.00	160.00
tblVehicleTrips	HS_TTP	19.20	19.40
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	4.96
tblVehicleTrips	ST_TR	158.37	298.59
tblVehicleTrips	ST_TR	49.97	42.00

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tblVehicleTrips	SU_TR	5.86	5.04
tblVehicleTrips	SU_TR	131.84	205.83
tblVehicleTrips	SU_TR	25.24	23.51
tblVehicleTrips	WD_TR	6.65	5.19
tblVehicleTrips	WD_TR	127.15	179.90
tblVehicleTrips	WD_TR	42.70	36.05
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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					
2021	4.1481	41.5977	25.8913	0.0666	18.6891	2.0506	20.7397	10.0973	1.8866	11.9839	0.0000	6,679.6906	6,679.6906	1.2240	0.0000	6,710.2910
2022	50.7479	21.9734	20.8622	0.0463	7.5106	0.9490	8.4595	3.6231	0.8731	4.4962	0.0000	4,539.1601	4,539.1601	0.9660	0.0000	4,556.4879
2023	3.1913	29.1780	26.1645	0.0859	19.5356	1.2770	20.8126	10.3233	1.1749	11.4981	0.0000	8,828.7568	8,828.7568	1.2565	0.0000	8,860.1679
2024	52.5051	16.1841	26.2624	0.0698	3.9608	0.6411	4.5196	1.0692	0.6027	1.6025	0.0000	6,984.7665	6,984.7665	0.8830	0.0000	7,006.8408
Maximum	52.5051	41.5977	26.2624	0.0859	19.5356	2.0506	20.8126	10.3233	1.8866	11.9839	0.0000	8,828.7568	8,828.7568	1.2565	0.0000	8,860.1679

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

2.1 Overall Construction (Maximum Daily Emission)

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					
2021	4.1481	41.5977	25.8913	0.0666	18.6891	2.0506	20.7397	10.0973	1.8866	11.9839	0.0000	6,679.6906	6,679.6906	1.2240	0.0000	6,710.2910
2022	50.7479	21.9734	20.8622	0.0463	7.5106	0.9490	8.4595	3.6231	0.8731	4.4962	0.0000	4,539.1601	4,539.1601	0.9660	0.0000	4,556.4878
2023	3.1913	29.1780	26.1645	0.0859	19.5356	1.2770	20.8126	10.3233	1.1749	11.4981	0.0000	8,828.7568	8,828.7568	1.2565	0.0000	8,860.1679
2024	52.5051	16.1841	26.2624	0.0698	3.9608	0.6411	4.5196	1.0692	0.6027	1.6025	0.0000	6,984.7665	6,984.7665	0.8830	0.0000	7,006.8408
Maximum	52.5051	41.5977	26.2624	0.0859	19.5356	2.0506	20.8126	10.3233	1.8866	11.9839	0.0000	8,828.7568	8,828.7568	1.2565	0.0000	8,860.1679

	ROG	NOx	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

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

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	6.5499	4.1819	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.0716	5,058.0716	0.1341	0.0920	5,088.8429
Energy	0.1195	1.0380	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.7404	1,303.7404	0.0250	0.0239	1,311.4679
Mobile	3.6801	17.7865	41.3513	0.1685	15.5725	0.1253	15.6978	4.1658	0.1163	4.2821		17,222.0226	17,222.0226	0.8030		17,242.0977
Total	**12.3496**	**23.0063**	**65.3421**	**0.2013**	**15.5725**	**0.6463**	**16.2188**	**4.1658**	**0.6374**	**4.8031**	**0.0000**	**23,583.8345**	**23,583.8345**	**0.9621**	**0.1159**	**23,642.4285**

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	6.5499	4.1819	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.0716	5,058.0716	0.1341	0.0920	5,088.8429
Energy	0.1195	1.0380	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.7404	1,303.7404	0.0250	0.0239	1,311.4679
Mobile	3.6801	17.7865	41.3513	0.1685	15.5725	0.1253	15.6978	4.1658	0.1163	4.2821		17,222.0226	17,222.0226	0.8030		17,242.0977
Total	**12.3496**	**23.0063**	**65.3421**	**0.2013**	**15.5725**	**0.6463**	**16.2188**	**4.1658**	**0.6374**	**4.8031**	**0.0000**	**23,583.8345**	**23,583.8345**	**0.9621**	**0.1159**	**23,642.4285**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition - Phase 1	Demolition	10/1/2021	10/31/2021	5	21	
2	Site Preparation - Phase 1	Site Preparation	11/1/2021	11/30/2021	5	22	
3	Grading - Phase 1	Grading	12/1/2021	1/31/2022	5	44	
4	Building Construction - Phase 1	Building Construction	2/1/2022	10/31/2022	5	195	
5	Paving - Phase 1	Paving	11/1/2022	12/31/2022	5	44	
6	Architectural Coating - Phase 1	Architectural Coating	11/1/2022	12/31/2022	5	44	
7	Demolition - Phases 2 and 3	Demolition	1/1/2023	2/28/2023	5	42	
8	Site Preparation - Phases 2 and 3	Site Preparation	3/1/2023	3/30/2023	5	22	
9	Grading - Phases 2 and 3	Grading	4/1/2023	5/30/2023	5	42	
10	Building Construction - Phases 2 and 3	Building Construction	6/1/2023	5/31/2024	5	262	
11	Paving - Phases 2 and 3	Paving	6/1/2024	7/31/2024	5	43	
12	Architectural Coating - Phases 2 and 3	Architectural Coating	6/1/2024	7/31/2024	5	43	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 662,218; Residential Outdoor: 220,739; Non-Residential Indoor: 18,378; Non-Residential Outdoor: 6,126; Striped Parking Area: 19,767 (Architectural Coating – sqft)

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition - Phase 1	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - Phase 1	Excavators	3	8.00	158	0.38
Demolition - Phase 1	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation - Phase 1	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation - Phase 1	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading - Phase 1	Excavators	1	8.00	158	0.38
Grading - Phase 1	Graders	1	8.00	187	0.41
Grading - Phase 1	Rubber Tired Dozers	1	8.00	247	0.40
Grading - Phase 1	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction - Phase 1	Cranes	1	7.00	231	0.29
Building Construction - Phase 1	Forklifts	3	8.00	89	0.20
Building Construction - Phase 1	Generator Sets	1	8.00	84	0.74
Building Construction - Phase 1	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction - Phase 1	Welders	1	8.00	46	0.45
Paving - Phase 1	Pavers	2	8.00	130	0.42
Paving - Phase 1	Paving Equipment	2	8.00	132	0.36
Paving - Phase 1	Rollers	2	8.00	80	0.38
Architectural Coating - Phase 1	Air Compressors	1	6.00	78	0.48
Demolition - Phases 2 and 3	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - Phases 2 and 3	Excavators	3	8.00	158	0.38
Demolition - Phases 2 and 3	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation - Phases 2 and 3	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation - Phases 2 and 3	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading - Phases 2 and 3	Excavators	1	8.00	158	0.38
Grading - Phases 2 and 3	Graders	1	8.00	187	0.41

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Grading - Phases 2 and 3	Rubber Tired Dozers		1	8.00	247	0.40
Grading - Phases 2 and 3	Tractors/Loaders/Backhoes		3	8.00	97	0.37
Building Construction - Phases 2 and 3	Cranes		1	7.00	231	0.29
Building Construction - Phases 2 and 3	Forklifts		3	8.00	89	0.20
Building Construction - Phases 2 and 3	Generator Sets		1	8.00	84	0.74
Building Construction - Phases 2 and 3	Tractors/Loaders/Backhoes		3	7.00	97	0.37
Building Construction - Phases 2 and 3	Welders		1	8.00	46	0.45
Paving - Phases 2 and 3	Pavers		2	8.00	130	0.42
Paving - Phases 2 and 3	Paving Equipment		2	8.00	132	0.36
Paving - Phases 2 and 3	Rollers		2	8.00	80	0.38
Architectural Coating - Phases 2 and 3	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
Demolition - Phase 1	6	80.00	20.00	406.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation - Phase 1	7	50.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phase 1	6	80.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phase 1	9	120.00	30.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving - Phase 1	6	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - Phase 1	1	80.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition - Phases 2 and 3	6	100.00	40.00	406.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation - Phases 2 and 3	7	120.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phases 2 and 3	8	160.00	20.00	2,125.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phases 2 and 3	9	300.00	60.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving - Phases 2 and 3	6	80.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - Phases 2 and 3	1	240.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.1 Mitigation Measures Construction

3.2 Demolition - Phase 1 - 2021

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					4.1873	0.0000	4.1873	0.6340	0.0000	0.6340			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**4.1873**	**1.5513**	**5.7386**	**0.6340**	**1.4411**	**2.0751**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.2 Demolition - Phase 1 - 2021

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	0.1443	4.9493	1.1115	0.0145	0.3378	0.0154	0.3532	0.0926	0.0147	0.1073		1,574.111 0	1,574.111 0	0.1115		1,576.890 8
Vendor	0.0586	1.9015	0.5065	4.9600e-003	0.1280	3.9600e-003	0.1320	0.0369	3.7900e-003	0.0406		529.1004	529.1004	0.0354		529.9854
Worker	0.3690	0.2398	2.7083	8.3100e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0600e-003	0.2432		828.5343	828.5343	0.0222		829.0974
Total	**0.5718**	**7.0905**	**4.3263**	**0.0278**	**1.3600**	**0.0259**	**1.3860**	**0.3666**	**0.0246**	**0.3912**		**2,931.745 6**	**2,931.745 6**	**0.1691**		**2,935.973 6**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1873	0.0000	4.1873	0.6340	0.0000	0.6340			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**4.1873**	**1.5513**	**5.7386**	**0.6340**	**1.4411**	**2.0751**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.2 Demolition - Phase 1 - 2021

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	0.1443	4.9493	1.1115	0.0145	0.3378	0.0154	0.3532	0.0926	0.0147	0.1073		1,574.111 0	1,574.111 0	0.1115		1,576.898 6
Vendor	0.0686	1.9815	0.5085	4.9600e-003	0.1280	3.9600e-003	0.1320	0.0369	3.7900e-003	0.0406		529.1004	529.1004	0.0354		529.9864
Worker	0.3589	0.2338	2.7063	8.3100e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0600e-003	0.2432		828.5343	828.5343	0.0222		829.0894
Total	**0.5718**	**7.0905**	**4.3263**	**0.0278**	**1.3600**	**0.0259**	**1.3860**	**0.3666**	**0.0246**	**0.3912**		**2,931.745 6**	**2,931.745 6**	**0.1691**		**2,935.973 6**

3.3 Site Preparation - Phase 1 - 2021

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.3 Site Preparation - Phase 1 - 2021

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
Vendor	0.0293	0.9507	0.2533	2.4800e-003	0.0640	1.9800e-003	0.0660	0.0184	1.9000e-003	0.0203		264.5502	264.5502	0.0177		264.9927
Worker	0.2306	0.1498	1.6927	5.2000e-003	0.5589	4.1100e-003	0.5630	0.1482	3.7900e-003	0.1520		517.8339	517.8339	0.0139		518.1809
Total	**0.2599**	**1.1006**	**1.9460**	**7.6800e-003**	**0.6229**	**6.0900e-003**	**0.6290**	**0.1667**	**5.6900e-003**	**0.1723**		**782.3841**	**782.3841**	**0.0316**		**783.1736**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.3 Site Preparation - Phase 1 - 2021

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
Vendor	0.0293	0.9587	0.2633	2.4900e-003	0.0640	1.9800e-003	0.0660	0.0184	1.9000e-003	0.0203		264.5502	264.5502	0.0177		264.9927
Worker	0.2306	0.1498	1.6827	5.2000e-003	0.5589	4.1100e-003	0.5630	0.1482	3.7900e-003	0.1520		517.8339	517.8339	0.0139		518.1809
Total	**0.2599**	**1.1086**	**1.9460**	**7.6800e-003**	**0.6229**	**6.0900e-003**	**0.6290**	**0.1667**	**5.6900e-003**	**0.1723**		**782.3841**	**782.3841**	**0.0316**		**783.1736**

3.4 Grading - Phase 1 - 2021

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.4 Grading - Phase 1 - 2021

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
Vendor	0.0293	0.9507	0.2533	2.4800e-003	0.0640	1.9800e-003	0.0660	0.0184	1.9000e-003	0.0203		264.5502	264.5502	0.0177		264.9927
Worker	0.3689	0.2398	2.7083	8.3100e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0600e-003	0.2432		828.5343	828.5343	0.0222		829.0894
Total	**0.3982**	**1.1905**	**2.9616**	**0.0108**	**0.9582**	**8.5600e-003**	**0.9668**	**0.2556**	**7.9600e-003**	**0.2635**		**1,093.084 5**	**1,093.084 5**	**0.0399**		**1,094.082 1**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**	**0.0000**	**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.4 Grading - Phase 1 - 2021

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
Vendor	0.0293	0.9507	0.2533	2.4800e-003	0.0640	1.9800e-003	0.0660	0.0184	1.9000e-003	0.0203		264.5502	264.5502	0.0177		264.9927
Worker	0.3690	0.2398	2.7083	8.3100e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0600e-003	0.2432		828.5343	828.5343	0.0222		829.0894
Total	**0.3982**	**1.1905**	**2.9616**	**0.0108**	**0.9582**	**8.5600e-003**	**0.9668**	**0.2556**	**7.9600e-003**	**0.2635**		**1,093.084 5**	**1,093.084 5**	**0.0399**		**1,094.082 1**

3.4 Grading - Phase 1 - 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.046 4	2,872.046 4	0.9289		2,895.268 4
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5523**	**0.9409**	**7.4932**	**3.3675**	**0.8656**	**4.2331**		**2,872.046 4**	**2,872.046 4**	**0.9289**		**2,895.268 4**

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3.4 Grading - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0275	0.9017	0.2386	2.4500e-003	0.0640	1.7200e-003	0.0657	0.0184	1.6400e-003	0.0201		262.1942	262.1942	0.0170		262.6199
Worker	0.3470	0.2165	2.4908	8.0100e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		798.8292	798.8292	0.0201		799.3305
Total	**0.3745**	**1.1182**	**2.7393**	**0.0105**	**0.9582**	**8.1100e-003**	**0.9663**	**0.2556**	**7.5300e-003**	**0.2631**		**1,061.023 4**	**1,061.023 4**	**0.0371**		**1,061.950 4**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.046 4	2,872.046 4	0.9289		2,895.268 4
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5523**	**0.9409**	**7.4932**	**3.3675**	**0.8656**	**4.2331**	**0.0000**	**2,872.046 4**	**2,872.046 4**	**0.9289**		**2,895.260 4**

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3.4 Grading - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0275	0.9017	0.2395	2.4500e-003	0.0640	1.7200e-003	0.0657	0.0184	1.6400e-003	0.0201		262.1942	262.1942	0.0170		262.6199
Worker	0.3470	0.2166	2.4998	8.0100e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		798.8292	798.8292	0.0201		799.3306
Total	**0.3745**	**1.1182**	**2.7393**	**0.0105**	**0.9582**	**8.1100e-003**	**0.9663**	**0.2556**	**7.5300e-003**	**0.2631**		**1,061.023 4**	**1,061.023 4**	**0.0371**		**1,061.950 4**

3.5 Building Construction - Phase 1 - 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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

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3.5 Building Construction - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0824	2.7052	0.7185	7.3600e-003	0.1926	5.1600e-003	0.1972	0.0553	4.9300e-003	0.0602		786.5827	786.5827	0.0511		787.8698
Worker	0.5205	0.3248	3.7497	0.0120	1.3413	9.6900e-003	1.3509	0.3557	8.9200e-003	0.3646		1,198.2430	1,198.2430	0.0301		1,198.9858
Total	**0.6029**	**3.0299**	**4.4682**	**0.0194**	**1.5333**	**0.0148**	**1.5481**	**0.4110**	**0.0138**	**0.4248**		**1,984.8265**	**1,984.8265**	**0.0812**		**1,986.8556**

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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3.5 Building Construction - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0824	2.7052	0.7186	7.3600e-003	0.1920	5.1600e-003	0.1972	0.0553	4.9300e-003	0.0602		786.5827	786.5827	0.0511		787.8590
Worker	0.5205	0.3248	3.7497	0.0120	1.3413	9.5900e-003	1.3509	0.3557	8.8300e-003	0.3646		1,198.243 8	1,198.243 8	0.0301		1,198.995 8
Total	**0.6029**	**3.0299**	**4.4682**	**0.0194**	**1.5333**	**0.0148**	**1.5481**	**0.4110**	**0.0138**	**0.4248**		**1,984.826 5**	**1,984.826 5**	**0.0812**		**1,986.855 6**

3.6 Paving - Phase 1 - 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	1.1028	11.1249	14.5805	0.0220		0.5679	0.5679		0.5225	0.5225		2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0220**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.660 3**	**2,207.660 3**	**0.7140**		**2,225.510 4**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.6 Paving - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0275	0.9617	0.2395	2.4500e-003	0.0640	1.7200e-003	0.0657	0.0184	1.6400e-003	0.0201		262.1942	262.1942	0.0170		262.6199
Worker	0.1735	0.1083	1.2499	4.0100e-003	0.4471	3.2000e-003	0.4503	0.1186	2.9400e-003	0.1215		399.4146	399.4146	0.0100		399.6653
Total	**0.2010**	**1.0100**	**1.4894**	**6.4600e-003**	**0.5111**	**4.9200e-003**	**0.5160**	**0.1370**	**4.5800e-003**	**0.1416**		**661.6088**	**661.6088**	**0.0271**		**662.2852**

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	1.1028	11.1249	14.5806	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.660 3**	**2,207.660 3**	**0.7140**		**2,225.510 4**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.6 Paving - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0275	0.9017	0.2495	2.4500e-003	0.0640	1.7200e-003	0.0657	0.0184	1.6400e-003	0.0201		262.1942	262.1942	0.0170		262.6199
Worker	0.1735	0.1083	1.2499	4.0100e-003	0.4471	3.2000e-003	0.4503	0.1186	2.9400e-003	0.1215		399.4146	399.4146	0.0100		399.6653
Total	**0.2010**	**1.0100**	**1.4994**	**6.4600e-003**	**0.5111**	**4.9200e-003**	**0.5160**	**0.1370**	**4.5800e-003**	**0.1416**		**661.6088**	**661.6088**	**0.0271**		**662.2852**

3.7 Architectural Coating - Phase 1 - 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					
Archit. Coating	48.8375					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**49.0421**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.7 Architectural Coating - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0550	1.8034	0.4790	4.9100e-003	0.1280	3.4400e-003	0.1314	0.0368	3.2900e-003	0.0401		524.3885	524.3885	0.0341		525.2399
Worker	0.3470	0.2165	2.4998	8.0100e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		798.8292	798.8292	0.0201		799.3305
Total	**0.4019**	**2.0199**	**2.9788**	**0.0129**	**1.0222**	**9.8300e-003**	**1.0321**	**0.2740**	**9.1800e-003**	**0.2832**		**1,323.2177**	**1,323.2177**	**0.0541**		**1,324.5704**

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	48.8375					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2046	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**49.0421**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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3.7 Architectural Coating - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0550	1.8034	0.4790	4.9100e-003	0.1280	3.4400e-003	0.1314	0.0368	3.2900e-003	0.0401		524.3885	524.3885	0.0341		525.2399
Worker	0.3470	0.2165	2.4998	8.0100e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		798.8292	798.8292	0.0201		799.3305
Total	**0.4019**	**2.0199**	**2.9788**	**0.0129**	**1.0222**	**9.8300e-003**	**1.0321**	**0.2740**	**9.1800e-003**	**0.2832**		**1,323.2177**	**1,323.2177**	**0.0541**		**1,324.5704**

3.8 Demolition - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0936	0.0000	2.0936	0.3170	0.0000	0.3170			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**2.0936**	**0.9975**	**3.0912**	**0.3170**	**0.9280**	**1.2450**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

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3.8 Demolition - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0454	1.4687	0.4906	6.8800e-003	0.1689	2.7800e-003	0.1717	0.0463	2.6600e-003	0.0490		746.9002	746.9002	0.0500		748.1504
Vendor	0.0820	2.7202	0.8471	9.5100e-003	0.2560	3.2300e-003	0.2592	0.0737	3.0900e-003	0.0768		1,017.446 6	1,017.446 6	0.0590		1,018.920 9
Worker	0.4091	0.2448	2.8709	9.6400e-003	1.1178	7.7800e-003	1.1256	0.2964	7.1700e-003	0.3036		961.2964	961.2964	0.0226		961.8610
Total	**0.5365**	**4.4337**	**4.2176**	**0.0260**	**1.5427**	**0.0138**	**1.5565**	**0.4164**	**0.0129**	**0.4293**		**2,725.643 2**	**2,725.643 2**	**0.1316**		**2,728.932 3**

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					2.0936	0.0000	2.0936	0.3170	0.0000	0.3170			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.984 0	3,746.984 0	1.0494		3,773.218 3
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**2.0936**	**0.9975**	**3.0912**	**0.3170**	**0.9280**	**1.2450**	**0.0000**	**3,746.984 0**	**3,746.984 0**	**1.0494**		**3,773.218 3**

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3.8 Demolition - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0454	1.4687	0.4906	6.8800e-003	0.1689	2.7800e-003	0.1717	0.0463	2.6600e-003	0.0490		746.9002	746.9002	0.0500		748.1504
Vendor	0.0820	2.7202	0.8471	9.5100e-003	0.2560	3.2300e-003	0.2592	0.0737	3.0900e-003	0.0768		1,017.4456	1,017.4456	0.0590		1,018.9209
Worker	0.4091	0.2448	2.8799	9.6400e-003	1.1178	7.7800e-003	1.1256	0.2964	7.1700e-003	0.3036		961.2964	961.2964	0.0226		961.8610
Total	**0.5365**	**4.4337**	**4.2176**	**0.0260**	**1.5427**	**0.0138**	**1.5565**	**0.4164**	**0.0129**	**0.4293**		**2,725.6432**	**2,725.6432**	**0.1316**		**2,728.9323**

3.9 Site Preparation - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.0663**	**1.2660**	**19.3323**	**9.9307**	**1.1647**	**11.0954**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

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3.9 Site Preparation - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0410	1.3691	0.4235	4.7600e-003	0.1780	1.6100e-003	0.1296	0.0369	1.5400e-003	0.0384		508.7233	508.7233	0.0295		509.4604
Worker	0.4909	0.2838	3.4559	0.0116	1.3413	9.3400e-003	1.3507	0.3557	8.6000e-003	0.3643		1,153.555 7	1,153.555 7	0.0271		1,154.233 2
Total	**0.5319**	**1.6538**	**3.8795**	**0.0163**	**1.4693**	**0.0110**	**1.4803**	**0.3926**	**0.0101**	**0.4027**		**1,662.279 0**	**1,662.279 0**	**0.0566**		**1,663.693 6**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.0663**	**1.2660**	**19.3323**	**9.9307**	**1.1647**	**11.0954**	**0.0000**	**3,687.308 1**	**3,687.308 1**	**1.1926**		**3,717.121 9**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.9 Site Preparation - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0410	1.3691	0.4236	4.7600e-003	0.1278	1.6100e-003	0.1296	0.0369	1.5400e-003	0.0384		508.7233	508.7233	0.0295		509.4604
Worker	0.4909	0.2838	3.4559	0.0116	1.3415	9.3400e-003	1.3507	0.3557	8.6000e-003	0.3643		1,153.555 7	1,153.555 7	0.0271		1,154.233 2
Total	**0.5319**	**1.6538**	**3.8795**	**0.0163**	**1.4693**	**0.0110**	**1.4803**	**0.3926**	**0.0101**	**0.4027**		**1,662.279 0**	**1,662.279 0**	**0.0566**		**1,663.693 6**

3.10 Grading - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5981	0.0000	6.5981	3.3744	0.0000	3.3744			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.691 0	2,872.691 0	0.9291		2,895.918 2
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.5981**	**0.7749**	**7.3730**	**3.3744**	**0.7129**	**4.0873**		**2,872.691 0**	**2,872.691 0**	**0.9291**		**2,895.918 2**

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3.10 Grading - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2374	7.6871	2.5678	0.0360	0.8841	0.0146	0.8986	0.2423	0.0139	0.2562		3,909.2682	3,909.2682	0.2617		3,916.8117
Vendor	0.0410	1.3601	0.4235	4.7600e-003	0.1280	1.6100e-003	0.1296	0.0369	1.5400e-003	0.0384		508.7233	508.7233	0.0295		509.4804
Worker	0.6545	0.3917	4.6079	0.0154	1.7884	0.0125	1.8008	0.4743	0.0115	0.4858		1,538.0743	1,538.0743	0.0361		1,538.9776
Total	**0.9329**	**9.4389**	**7.5992**	**0.0562**	**2.8005**	**0.0286**	**2.8291**	**0.7534**	**0.0269**	**0.7804**		**5,956.0658**	**5,956.0658**	**0.3274**		**5,964.2497**

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					6.5981	0.0000	6.5981	3.3744	0.0000	3.3744			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.5981**	**0.7749**	**7.3730**	**3.3744**	**0.7129**	**4.0873**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.10 Grading - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2374	7.6871	2.5678	0.0360	0.8841	0.0146	0.8986	0.2423	0.0139	0.2562		3,909.268 2	3,909.268 2	0.2617		3,915.811 7
Vendor	0.0410	1.3601	0.4235	4.7600e-003	0.1280	1.6100e-003	0.1296	0.0369	1.5400e-003	0.0384		508.7233	508.7233	0.0295		509.4604
Worker	0.6545	0.3917	4.6079	0.0154	1.7884	0.0125	1.8009	0.4743	0.0115	0.4858		1,538.074 3	1,538.074 3	0.0361		1,538.977 6
Total	**0.9329**	**9.4389**	**7.5992**	**0.0562**	**2.8005**	**0.0286**	**2.8291**	**0.7534**	**0.0269**	**0.7804**		**5,956.065 8**	**5,956.065 8**	**0.3274**		**5,964.249 7**

3.11 Building Construction - Phases 2 and 3 - 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	1.5726	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,556.209 9	2,556.209 9	0.6079		2,570.406 1
Total	**1.5720**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

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3.11 Building Construction - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1231	4.0803	1.2706	0.0143	0.3840	4.8400e-003	0.3889	0.1106	4.6300e-003	0.1152		1,526.169 9	1,526.169 9	0.0886		1,528.381 3
Worker	1.2272	0.7344	8.6398	0.0289	3.3533	0.0234	3.3767	0.8893	0.0215	0.9108		2,883.889 3	2,883.889 3	0.0678		2,885.583 0
Total	**1.3502**	**4.8146**	**9.9105**	**0.0432**	**3.7373**	**0.0282**	**3.7655**	**0.9999**	**0.0261**	**1.0260**		**4,410.059 2**	**4,410.059 2**	**0.1562**		**4,413.964 3**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

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3.11 Building Construction - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1231	4.0803	1.2706	0.0143	0.3840	4.8400e-003	0.3889	0.1106	4.6300e-003	0.1152		1,526.169 9	1,526.169 9	0.0885		1,528.381 3
Worker	1.2272	0.7344	8.6398	0.0289	3.3533	0.0234	3.3767	0.8893	0.0215	0.9108		2,883.889 3	2,883.889 3	0.0678		2,885.583 0
Total	1.3502	4.8146	9.9105	0.0432	3.7373	0.0282	3.7655	0.9999	0.0261	1.0260		4,410.059 2	4,410.059 2	0.1562		4,413.964 3

3.11 Building Construction - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.698 9	2,555.698 9	0.6044		2,570.807 7
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.698 9	2,555.698 9	0.6044		2,570.807 7

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3.11 Building Construction - Phases 2 and 3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1204	4.0714	1.2342	0.0142	0.3840	4.7700e-003	0.3888	0.1106	4.5600e-003	0.1151		1,520.9792	1,520.9792	0.0870		1,523.1541
Worker	1.1649	0.6690	8.0553	0.0280	3.3533	0.0230	3.3763	0.8893	0.0212	0.9105		2,788.8676	2,788.8676	0.0620		2,790.4183
Total	**1.2853**	**4.7403**	**9.2895**	**0.0422**	**3.7373**	**0.0278**	**3.7651**	**0.9999**	**0.0258**	**1.0256**		**4,309.8468**	**4,309.8468**	**0.1490**		**4,313.5724**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1660	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1660**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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3.11 Building Construction - Phases 2 and 3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1204	4.0714	1.2342	0.0142	0.3840	4.7700e-003	0.3888	0.1106	4.5800e-003	0.1151		1,520.9792	1,520.9792	0.0870		1,523.1541
Worker	1.1649	0.6690	8.0553	0.0280	3.3533	0.0230	3.3763	0.8893	0.0212	0.9105		2,788.8676	2,788.8676	0.0620		2,790.4183
Total	**1.2853**	**4.7403**	**9.2895**	**0.0422**	**3.7373**	**0.0278**	**3.7651**	**0.9999**	**0.0258**	**1.0256**		**4,309.8468**	**4,309.8468**	**0.1490**		**4,313.5724**

3.12 Paving - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0220		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0220**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

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3.12 Paving - Phases 2 and 3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0401	1.3571	0.4114	4.7400e-003	0.1280	1.5900e-003	0.1296	0.0368	1.5200e-003	0.0384		506.9931	506.9931	0.0290		507.7180
Worker	0.3106	0.1784	2.1481	7.4600e-003	0.8942	6.1500e-003	0.9004	0.2372	5.6600e-003	0.2428		743.6980	743.6980	0.0165		744.1115
Total	**0.3508**	**1.5355**	**2.5595**	**0.0122**	**1.0222**	**7.7400e-003**	**1.0300**	**0.2740**	**7.1800e-003**	**0.2812**		**1,250.6911**	**1,250.6911**	**0.0455**		**1,251.8296**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0226		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0226**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.12 Paving - Phases 2 and 3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0401	1.3571	0.4114	4.7400e-003	0.1780	1.5900e-003	0.1296	0.0368	1.5200e-003	0.0384		506.9931	506.9931	0.0290		507.7180
Worker	0.3106	0.1784	2.1481	7.4600e-003	0.8442	6.1500e-003	0.9004	0.2372	5.6600e-003	0.2428		743.6980	743.6980	0.0165		744.1115
Total	**0.3508**	**1.5355**	**2.5595**	**0.0122**	**1.0222**	**7.7400e-003**	**1.0300**	**0.2740**	**7.1800e-003**	**0.2812**		**1,250.6911**	**1,250.6911**	**0.0455**		**1,251.8296**

3.13 Architectural Coating - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	49.9733					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1806	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**50.1540**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.13 Architectural Coating - Phases 2 and 3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0803	2.7142	0.8228	9.4800e-003	0.2560	3.1800e-003	0.2592	0.0737	3.0400e-003	0.0767		1,013.9861	1,013.9861	0.0580		1,015.4361
Worker	0.9319	0.6352	6.4443	0.0224	2.6826	0.0184	2.7011	0.7115	0.0170	0.7284		2,231.0941	2,231.0941	0.0496		2,232.3346
Total	**1.0122**	**3.2494**	**7.2671**	**0.0319**	**2.9386**	**0.0216**	**2.9603**	**0.7852**	**0.0200**	**0.8052**		**3,245.0802**	**3,245.0802**	**0.1076**		**3,247.7707**

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	49.9733					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1806	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**50.1540**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.13 Architectural Coating - Phases 2 and 3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0803	2.7142	0.8228	9.4800e-003	0.2560	3.1800e-003	0.2592	0.0737	3.0400e-003	0.0767		1,013.9861	1,013.9861	0.0580		1,015.4361
Worker	0.9319	0.6352	6.4443	0.0224	2.6826	0.0184	2.7011	0.7115	0.0170	0.7284		2,231.0941	2,231.0941	0.0496		2,232.3346
Total	**1.0122**	**3.2494**	**7.2671**	**0.0319**	**2.9386**	**0.0216**	**2.9603**	**0.7852**	**0.0200**	**0.8052**		**3,245.0802**	**3,245.0802**	**0.1076**		**3,247.7707**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

1-51 Cont.

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

	ROG	NOx	CO	SO2	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	3.6801	17.7865	41.3513	0.1685	15.5725	0.1253	15.6978	4.1659	0.1163	4.2821		17,222.02 26	17,222.02 26	0.8030		17,242.09 77
Unmitigated	3.6801	17.7865	41.3513	0.1685	15.5725	0.1253	15.6978	4.1658	0.1163	4.2821		17,222.02 26	17,222.02 26	0.8030		17,242.09 77

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,382.34	1,384.48	1325.52	4,801,434	4,801,434
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	890.51	1,478.02	1018.86	1,352,980	1,352,980
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	263.17	306.60	171.62	554,321	554,321
Total	2,516.01	3,089.10	2,516.00	6,509,735	6,508,735

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.40	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

1-51 Cont.

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Enclosed Parking with Elevator	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
High Turnover (Sit Down Restaurant)	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Other Asphalt Surfaces	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Regional Shopping Center	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1196	1.0380	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.740 4	1,303.740 4	0.0250	0.0239	1,311.487 9
NaturalGas Unmitigated	0.1196	1.0380	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.740 4	1,303.740 4	0.0250	0.0239	1,311.487 9

1-51 Cont.

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

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					
Apartments Mid Rise	8234.03	0.0888	0.7588	0.3229	4.8400e-003		0.0614	0.0614		0.0614	0.0614		968.7097	968.7097	0.0186	0.0178	974.4663
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	2807.76	0.0303	0.2753	0.2312	1.6500e-003		0.0209	0.0209		0.0209	0.0209		330.3240	330.3240	6.3300e-003	6.0600e-003	332.2077
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
Regional Shopping Center	40	4.3000e-004	3.9200e-003	3.2900e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		4.7059	4.7059	9.0000e-005	9.0000e-005	4.7339
Total		**0.1195**	**1.0380**	**0.5574**	**6.5100e-003**		**0.0826**	**0.0826**		**0.0826**	**0.0826**		**1,303.7404**	**1,303.7404**	**0.0250**	**0.0239**	**1,311.4879**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

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					
Apartments Mid Rise	8.23403	0.0888	0.7588	0.3229	4.8400e-003		0.0614	0.0614		0.0614	0.0614		968.7097	968.7097	0.0186	0.0178	974.4663
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	2.80776	0.0303	0.2753	0.2312	1.6500e-003		0.0209	0.0209		0.0209	0.0209		330.3240	330.3240	6.3300e-003	6.0600e-003	332.2077
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
Regional Shopping Center	0.04	4.3000e-004	3.9200e-003	3.2900e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		4.7059	4.7059	9.0000e-005	9.0000e-005	4.7339
Total		**0.1195**	**1.0380**	**0.5574**	**6.5100e-003**		**0.0826**	**0.0826**		**0.0826**	**0.0826**		**1,303.7404**	**1,303.7404**	**0.0250**	**0.0239**	**1,311.4879**

6.0 Area Detail

6.1 Mitigation Measures Area

1-51 Cont.

	ROG	NOx	CO	SO2	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	8.5499	4.1819	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.071 6	5,058.071 6	0.1341	0.0920	5,088.842 9
Unmitigated	8.5499	4.1819	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.071 6	5,058.071 6	0.1341	0.0920	5,088.842 9

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	0.5068					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.9145					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4601	3.9314	1.6729	0.0251		0.3179	0.3179		0.3179	0.3179	0.0000	5,018.823 5	5,018.823 5	0.0962	0.0920	5,048.647 9
Landscaping	0.6685	0.2505	21.7605	1.1600e-003		0.1206	0.1206		0.1206	0.1206		39.2480	39.2480	0.0379		40.1950
Total	**8.5499**	**4.1819**	**23.4334**	**0.0262**		**0.4384**	**0.4384**		**0.4384**	**0.4384**	**0.0000**	**5,058.071 6**	**5,058.071 6**	**0.1341**	**0.0920**	**5,088.842 9**

1-51 Cont.

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

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	0.6168					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.8145					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4600	3.9314	1.6729	0.0261		0.3179	0.3179		0.3179	0.3179	0.0000	5,018.8235	5,018.8235	0.0962	0.0920	5,048.6479
Landscaping	0.6586	0.2506	21.7605	1.1500e-003		0.1206	0.1206		0.1206	0.1206		39.2480	39.2480	0.0379		40.1960
Total	**8.5499**	**4.1819**	**23.4334**	**0.0262**		**0.4384**	**0.4384**		**0.4384**	**0.4384**	**0.0000**	**5,058.0716**	**5,058.0716**	**0.1341**	**0.0920**	**5,088.8439**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

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

1-51 Cont.

Attachment D

```
Start date and time  04/05/21 10:13:47
                          AERSCREEN 16216

Pacific Coast Commons Operation

           Pacific Coast Commons Operation

        ---------------- DATA ENTRY VALIDATION ----------------
                     METRIC              ENGLISH
 ** AREADATA **  --------------      ---------------

 Emission Rate:    0.126E-02 g/s       0.998E-02 lb/hr
 Area Height:            3.00 meters          9.84 feet
 Area Source Length:  256.00 meters        839.90 feet
 Area Source Width:   101.00 meters        331.36 feet
 Vertical Dimension:    1.50 meters          4.92 feet
 Model Mode:          URBAN
 Population:          16731
 Dist to Ambient Air:          1.0 meters            3. feet

 ** BUILDING DATA **
```

1-51 Cont.

```
No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations

Source Base Elevation:   0.0 meters       0.0  feet

Probe distance:   5000. meters      16404. feet

No flagpole receptors

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature:  250.0 / 310.0 K   -9.7 /  98.3 Deg F

Minimum Wind Speed:    0.5 m/s
```

1-51
Cont.

```
 Anemometer Height:   10.000 meters

 Dominant Surface Profile: Urban

 Dominant Climate Type:    Average Moisture

 Surface friction velocity (u*): not adjusted

DEBUG OPTION ON

 AERSCREEN output file:

 2021.04.05_PacificCoastCommons_Operation.out

 *** AERSCREEN Run is Ready to Begin

 No terrain used, AERMAP will not be run
**************************************************

SURFACE CHARACTERISTICS & MAKEMET

Obtaining surface characteristics...
```

1-51
Cont.

```
Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season          Albedo    Bo      zo

Winter           0.35    1.50    1.000

Spring           0.14    1.00    1.000

Summer           0.16    2.00    1.000

Autumn           0.18    2.00    1.000


Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl


Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl


Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl


Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl


Buildings and/or terrain present or rectangular area source, skipping probe


FLOWSECTOR   started 04/05/21 10:15:50
 *********************************************


  Running AERMOD
 Processing Winter


Processing surface roughness sector  1
```

1-51
Cont.

```
****************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP
```

1-51
Cont.

```
*****************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

*****************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

*****************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP
 ********************************************
```

1-51
Cont.

```
 Running AERMOD

Processing Spring


Processing surface roughness sector  1


*****************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0


   ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

*****************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5


   ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

*****************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10
```

1-51
Cont.

```
    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25
```

1-51
Cont.

```
   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP
 *******************************************


  Running AERMOD

 Processing Summer


Processing surface roughness sector  1


****************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0


   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5


   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP
```

1-51
Cont.

```
****************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10


    ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15


    ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20


    ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************
```

1-51
Cont.

```
Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25


   ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP
 *******************************************


  Running AERMOD

 Processing Autumn


Processing surface roughness sector  1


****************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0


   ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5
```

1-51
Cont.

```
   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10


   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15


   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20
```

1-51
Cont.

```
   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25


   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

FLOWSECTOR   ended 04/05/21 10:16:08


REFINE       started 04/05/21 10:16:08


 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0


   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

REFINE       ended 04/05/21 10:16:11


 *********************************************

 AERSCREEN Finished Successfully

 But with Warnings
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Cont.

Check log file for details

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Ending date and time 04/05/21 10:16:14

1-51
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 Concentration      Distance Elevation  Diag  Season/Month   Zo sector       Date
 H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS     HT
REF TA     HT
   0.14967E+01        1.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16113E+01       25.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17120E+01       50.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17982E+01       75.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18752E+01      100.00      0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19374E+01      125.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
*  0.19469E+01      129.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15401E+01      150.00      0.00  15.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12075E+01      175.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.99699E+00      200.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.85889E+00      225.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.75015E+00      250.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.66363E+00      275.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.59258E+00      300.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.53380E+00      325.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.48434E+00      350.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.44244E+00       375.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.40624E+00       400.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.37520E+00       425.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.34763E+00       450.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32366E+00       475.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.30234E+00       500.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28334E+00       525.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26642E+00       550.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25111E+00       575.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23713E+00       600.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22452E+00       625.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21308E+00       650.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20267E+00       675.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19310E+00       700.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18421E+00       725.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17597E+00       750.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16836E+00       775.00      0.00   0.0        Winter      0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16133E+00       800.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15481E+00       825.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14875E+00       850.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14310E+00       875.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13775E+00       900.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13275E+00       925.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12807E+00       950.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12367E+00       975.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11953E+00      1000.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11564E+00      1025.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11194E+00      1050.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10844E+00      1075.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10513E+00      1100.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10199E+00      1125.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.99015E-01      1150.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.96192E-01      1175.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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  0.93475E-01      1200.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.90891E-01      1225.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.88430E-01      1250.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.86084E-01      1275.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.83846E-01      1300.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.81708E-01      1325.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.79664E-01      1350.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.77708E-01      1375.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.75836E-01      1400.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.74042E-01      1425.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.72321E-01      1450.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.70669E-01      1475.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.69083E-01      1500.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.67558E-01      1525.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.66092E-01      1550.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.64681E-01      1575.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
  0.63317E-01      1600.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.62000E-01      1625.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.60731E-01      1650.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.59506E-01      1675.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.58324E-01      1700.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.57182E-01      1725.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.56075E-01      1750.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.55001E-01      1775.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.53963E-01      1800.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.52958E-01      1825.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.51986E-01      1850.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.51045E-01      1875.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.50132E-01      1900.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.49248E-01      1925.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.48906E-01      1950.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.48060E-01      1975.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.47239E-01      2000.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.46442E-01      2025.00      0.00   0.0        Winter      0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.45668E-01      2050.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.44916E-01      2075.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.44186E-01      2100.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.43475E-01      2125.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.42784E-01      2150.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.42112E-01      2175.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.41458E-01      2200.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.40822E-01      2225.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.40202E-01      2250.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.39598E-01      2275.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.39010E-01      2300.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.38437E-01      2325.00      0.00   5.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.37878E-01      2350.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.37334E-01      2375.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.36802E-01      2400.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.36284E-01      2425.00      0.00   5.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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Cont.

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   0.35778E-01     2450.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.35284E-01     2475.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.34802E-01     2500.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.34331E-01     2525.00      0.00   5.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.33871E-01     2550.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.33422E-01     2575.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32983E-01     2600.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32554E-01     2625.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32134E-01     2650.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.31723E-01     2675.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.31322E-01     2700.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.30930E-01     2725.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.30545E-01     2750.00      0.00  10.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.30169E-01     2775.00      0.00  10.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29801E-01     2800.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29441E-01     2825.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29088E-01     2850.00      0.00   0.0       Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
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Cont.

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310.0    2.0
   0.28742E-01      2875.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28404E-01      2900.00      0.00   5.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28072E-01      2925.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27747E-01      2950.00      0.00   5.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27429E-01      2975.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27116E-01      3000.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26810E-01      3025.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26510E-01      3050.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26215E-01      3075.00      0.00  10.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25927E-01      3100.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25643E-01      3125.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25365E-01      3150.00      0.00   5.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25092E-01      3174.99      0.00  10.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24824E-01      3199.99      0.00  10.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24561E-01      3225.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24303E-01      3250.00      0.00   5.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24050E-01      3275.00      0.00   0.0       Winter      0-360   10011001
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Cont.

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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23801E-01      3300.00      0.00   5.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23556E-01      3325.00      0.00  15.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23316E-01      3350.00      0.00   5.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23080E-01      3375.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22848E-01      3400.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22620E-01      3425.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22396E-01      3450.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22176E-01      3475.00      0.00  15.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21960E-01      3500.00      0.00  20.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21747E-01      3525.00      0.00  25.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21538E-01      3550.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21332E-01      3575.00      0.00  15.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21130E-01      3600.00      0.00  20.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20931E-01      3625.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20735E-01      3650.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20542E-01      3675.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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Cont.

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   0.20352E-01      3700.00      0.00  20.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20166E-01      3724.99      0.00  20.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19982E-01      3750.00      0.00  25.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19801E-01      3775.00      0.00  25.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19623E-01      3800.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19448E-01      3825.00      0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19276E-01      3850.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19106E-01      3875.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18938E-01      3900.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18774E-01      3925.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18611E-01      3950.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18451E-01      3975.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18294E-01      4000.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18138E-01      4025.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17986E-01      4050.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17835E-01      4075.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17686E-01      4100.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.17540E-01     4125.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17396E-01     4149.99      0.00  20.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17253E-01     4175.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17113E-01     4200.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16974E-01     4225.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16838E-01     4250.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16703E-01     4275.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16571E-01     4300.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16440E-01     4325.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16311E-01     4350.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16184E-01     4375.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16058E-01     4400.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15934E-01     4425.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15812E-01     4450.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15691E-01     4475.00      0.00  10.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15572E-01     4500.00      0.00  10.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15454E-01     4525.00      0.00   0.0       Winter      0-360   10011001
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1-51
Cont.

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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15338E-01      4550.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15224E-01      4575.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15111E-01      4600.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14999E-01      4625.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14889E-01      4650.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14780E-01      4675.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14673E-01      4700.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14567E-01      4725.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14462E-01      4750.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14359E-01      4775.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14256E-01      4800.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14156E-01      4825.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14056E-01      4850.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13957E-01      4875.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13860E-01      4900.00      0.00   5.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13764E-01      4925.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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Cont.

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   0.13669E-01      4950.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13575E-01      4975.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13482E-01      5000.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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Attachment E

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

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
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Office: (310) 452-5555
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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 unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. 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. 1-52

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, 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 dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial 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.

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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.

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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., 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.

1-52 Cont.

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.

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Cont.

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 Conference*. Lecture conducted from Indianapolis, Maryland.

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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. 1-52 Cont.

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 United States District Court For The Southern District of Illinois
Duarte et al, *Plaintiffs*, vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 3:19-cv-00302-SMY-GCS
Rosenfeld Deposition. 2-19-2020

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

1-52 Cont.

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 Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
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 Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 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

1-52
Cont.

Attachment F

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

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

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

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

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

Education:

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

1-52 Cont.

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 150 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.

1-52 Cont.

2

- 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: 1-52 Cont.

- 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

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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. 1-52 Cont.
- 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

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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).

5

1-52 Cont.

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.

1-52 Cont.

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.

1-52 Cont.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35. 1-52 Cont.

Other Experience:

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

EXHIBIT B

11/18/21, 2:53 PM Mitchell M. Tsai, Attorney At Law Mail - COMMENT LETTER: Pacific Coast Commons Specific Plan Project [SCH No.: 20200505...

MITCHELL M. TSAI
ATTORNEY AT LAW

Mitchell Tsai <mitch@mitchtsailaw.com>

COMMENT LETTER: Pacific Coast Commons Specific Plan Project [SCH No.: 2020050508]

Leon Ramsey, Jr. <leon@mitchtsailaw.com> Mon, Apr 12, 2021 at 6:27 PM
To: psamaras@elsegundo.org
Cc: Mitchell Tsai <mitch@mitchtsailaw.com>, Greg Sonstein <greg@mitchtsailaw.com>

Good evening,

Please see attached regarding the above-referenced project and confirm receipt of this email and its attachment.

Thank you,

Leon Ramsey Jr.
Paralegal

Mitchell M. Tsai, Attorney At Law
155 South El Molino Avenue
Suite 104
Pasadena, CA 91101
Office: (626) 381-9248
Phone: (626) 389-8320
Fax: (626) 389-5414
Email: leon@mitchtsailaw.com
Website: http://www.mitchtsailaw.com

1-53 Cont.

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Response to Comment Letter 1

Southwest Regional Council of Carpenters
(via Mitchell M. Tsai, Attorney at Law)
December 8, 2021

1-1 In summary, this comment includes an introductory statement and a general summary of the proposed Project's description.

The comment does not raise any specific concerns related to the adequacy of the environmental analysis in the EIR; therefore, no further response to this comment is required.

1-2 This comment requests the City to provide notice to the commenter of all notices referring or related to the proposed Project.

The commenter's request will be granted in accordance with the California Public Records Act (Government Code §§6250-6270); California Environmental Quality Act (CEQA) (Public Resource Code §21000 et seq); and Planning and Zoning Law (Government Code §§65000-65010), as cited in the letter. Additionally, in accordance with CEQA Guidelines Section 15094, the Lead Agency (the City of El Segundo) shall file a Notice of Determination (NOD) within five working days after deciding to carry out or approve the Project. The NOD will also be filed with the Los Angeles County Clerk and the Governor's Office of Planning and Research State Clearinghouse. The comment does not raise any specific concerns related to the adequacy of the environmental analysis in the EIR; therefore, no further response to this comment is required.

1-3 In summary, this comment states the City should require the Project applicant to provide additional community benefits such as local hire project labor agreement to construct the proposed Project. Furthermore, the comment cites Comment 1-26 for more discussion.

Please refer to Response to Comment 1-26.

This comment requests that the City consider utilizing "skilled and trained workforce policies and requirements". This comment is interpreted to be a request that the City implement a "local hire" requirement on the proposed Project, citing economic benefits and benefits to greenhouse gas, air quality, and transportation impacts. As stated in Draft EIR Sections 4.2, Air Quality, 4.6, Greenhouse Gas Emissions, and Section 4.13, Transportation, there are no significant short-term construction-related or long-term operational environmental impacts that are related to the length of vehicle trips or the proximity of workers to the Project site. Therefore, there is no obligation under CEQA to consider implementation of skilled and trained workforce requirements, and no changes to the EIR are required.

Additionally, the comment requests that the City require the Project to be built to standards exceeding the 2019 California Green Building Code (CalGreen) to mitigate environmental impacts. Draft EIR Sections 4.4, Energy and 4.6, Greenhouse Gas Emissions, determined impacts would be less than significant and no mitigation was required. The proposed Project would be built in accordance with the current Building Energy Efficiency Standards (Title 24) at the time of construction, which include robust requirements for energy efficiency (Draft EIR page 4.4-14). Moreover, Table 4.6-8, Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies, demonstrates that the proposed

Project would be consistent with the City's Municipal Code and CalGreen requirements (Draft EIR page 4.6-43). Given this, the proposed Project currently meets required standards and no change or addition is required to the Draft EIR's environmental analysis. However, this comment is acknowledged and will be taken into consideration by the City's decision markers.

1-4 In summary, this comment cites various excerpts of case law and related to CEQA's legislative intent to inform decision makers and the public and avoid and reduce environmental impacts or adopt a statement of overriding considerations.

The EIR for the proposed Project was prepared in compliance with CEQA and the CEQA Guidelines, codified in Title 14 of the California Code of Regulations, section 15000 *et seq.* The comment does not raise any specific concerns related to the adequacy of the environmental analysis in the EIR; therefore, no further response to this comment is required.

1-5 In summary, this comment states that significant revisions to Chapter 3, Changes to the Draft EIR, of the Final EIR were made, thus, requiring recirculation of the EIR due to changes to transportation and cumulative impacts analyses with the addition of three additional related projects.

Chapter 2, Responses to Comments, of the Final EIR addressed concerns associated with cumulative impact analyses. As discussed in Topical Response No. 1 – Cumulative Impacts (starting on Final EIR page 2-2), the City added three reasonably foreseeable projects shown and incorporated in Table 2-2, Additional Related Projects. Topical Response No. 1 determined the additions do not change the impact conclusions in the Draft EIR, nor do they result in any new significant impacts or the need for new or altered mitigation measures, as further demonstrated in Topical Response No. 1. Given that these changes would not result in a new significant impact or in an increase in the severity of a previously identified significant impact, pursuant to CEQA Guidelines Section 15088.5, recirculation of the Draft EIR is not required.

Regarding the commenter's assertion about the Final EIR's transportation analysis, Topical Response No. 1 concluded the addition of three related projects would not change the Draft EIR's determination. Appendix A, Revised Future Analysis, of the Final EIR was included to support this conclusion. For example, the addition of three related projects would not change the proposed Project's proximity to public transit and the Project (and other related projects) would cumulatively contribute to transit ridership maintained by Metro and LADOT, which would result in less than significant impacts. Additionally, the Final EIR demonstrated the addition of three related projects would not result in a cumulatively significant impact related to vehicle miles traveled (VMT). As further described in Chapter 2 of the Final EIR, the Project's VMT would fall below SCAG's efficiency-based threshold and the Project site is located within an urbanized area served by public transit. Therefore, the Project's contribution to cumulative VMT would not be cumulatively considerable.

Finally, the comment notes changes to the Draft EIR have been made to the Project's trip generation, traffic volume, and level of service (LOS) analyses. As detailed in Chapter 2, Responses to Comments, of the Final EIR, discussion of the changes in the LOS analysis were made for informational purposes related to the applicability of the City's General Plan policies. However, automobile delay and traffic congestion are not considered to be impacts on the environment for the purposes of traffic and transportation analysis (California Public Resources Code Section 21099(b)(2)). As such, the City's LOS policy is not applicable under CEQA per Senate Bill (SB) 743. No change or addition to the EIR's environmental analyses are required.

1-6 In summary, this comment states the Southwest Regional Council of Carpenters submitted comments to the Draft EIR on April 12, 2021. However, an administrative error occurred. As such, the comment letter was not included in Final EIR Chapter 2, Responses to Comments.

The City acknowledges the receipt of the pre-dated comment letter, which is included as Comments 1-8 through 1-25. Please see Responses to Comments 1-8 through 1-25 for responses to the letter.

1-7 In summary, this comment states opposition to the proposed Project and requests revisions and recirculation of the Draft EIR.

The commenter's general opposition to the Project will be provided to the City's decision makers for their review and consideration.

Responses 1-8 through 1-25 are for "Exhibit A, April 12, 2021 SWRCC Letter to Paul Samaras"

1-8 Please refer to Response to Comment 1-1.

1-9 Please refer to Response to Comment 1-2.

1-10 Please refer to Response to Comment 1-3.

1-11 In summary, this comment states a summary of the qualifications of Matt Hagemann, P.G., C.Hg. and Paul Rosenfeld, Ph.D and refers to their comments regarding the Draft EIR's greenhouse gas emissions analyses, which are attached to the primary comment letter.

The comment does not express any environmental comments or concerns related to the analysis in the Draft EIR. The aforementioned comments are included as Comments 1-26 and 1-28 through 1-51. As such, please see Responses to Comments 1-26 and 1-28 through 1-51, for more discussion.

1-12 Please refer to Response to Comment 1-4.

1-13 Please refer to Response to Comment 1-5.

1-14 In summary, this comment recommends that the City adopt mitigation measures to mitigate public health risks related to COVID-19 during construction of the proposed Project.

The potential for Project construction to cause COVID-19 to spread through worker exposure is not an impact on the environment under CEQA, rather it is a public health concern under the purview of federal, state, and local public health agencies. CEQA requires the consideration of significant changes in the environment caused by a proposed project; therefore, an existing adverse environmental condition that a project does not create or exacerbate is not responsible for mitigating that adverse condition. Implementation of the proposed Project would not create or exacerbate an existing environmental hazard or an existing public health hazard, and therefore, no mitigation is required. Compliance with existing mandates from federal, state, and local public health agencies, including California Occupational Safety and Health Administration's (Cal/OSHA) *COVID-19 Prevention Emergency Temporary Standards* (ETS) are specifically intended to address workplace health and safety (OSHSB 2021). Policy mandates from public health agencies are consistently updated to address rapidly changing circumstances and provide the most appropriate and methods for protecting worker safety. For instance, the most recent Order from the County of Los Angeles Department of Public Health requires that by January 17, 2022, mandates that employers must provide their employees who work indoors and in close contact with other workers or the public, and require them to wear, a well-fitting medical grade mask, surgical mask, or higher-level respirator, such as an N95 filtering facepiece respirator or KN95, at all times while indoors at the worksite or facility (LACDPH 2022). In addition to mandatory measures set forth by the County of Los Angeles Department of Public Health related to masking in the workplace and Cal/OSHA's *COVID-19 Prevention Emergency Temporary* Standards (ETS), there are other federal OSHA standards that apply to protecting workers from infection include: requirements for personal protective equipment (PPE) (29 CFR part 1910, Subpart I (e.g., 1910.132 and 133)), respiratory protection (29 CFR 1910.134), sanitation (29 CFR 1910.141), and OSHA's requirements for employee access to medical and exposure records (29 CFR 1910.1020). Employers are also required by the General Duty Clause, Section 5(a)(1) of the OSH Act, to provide a safe and healthful workplace free from recognized hazards that are causing or likely to cause death or serious physical harm (OSHA 2021).

Therefore, compliance with mandatory federal, state, and local public health agency regulations would ensure adequate and appropriate protections for workplace safety and the proposed Project would not create or exacerbate an existing environmental or public health hazard. There is no aspect of the proposed Project that would prevent or interfere with the United Brotherhood of Carpenters providing the Carpenter union members with additional trainings related to COVID-19. No changes to the project description or environmental analyses included in the Draft EIR are required.

1-15 In summary, this comment states the Draft EIR defers details within specific mitigation measures, as detailed below.

In summary, this comment states MM-CUL-1 does not include details of the Worker Environmental Awareness Program (WEAP) to reduce potential impacts to archeological resources. As described in Draft EIR Section 4.3, Cultural Resources, mitigation measure MM-CUL-1 includes numerous requirements that must be included in the training program, which include: (1) inform workers about sensitivity of the Project area, (2) provide specific details on the kinds of archaeological materials that may be identified during construction, (3) explain the importance of and legal basis for the protection of significant archaeological resources, (4) provide actions to be taken in the event of a discovery of cultural resources (see MM CUL-2), (5) define "tribal cultural resources" and include appropriate management requirements relating to inadvertent discovery of a potential tribal cultural resource, and (6) each worker shall also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities, which must include work curtailment or redirection, and the immediate contact of the site supervisor and archaeological monitor. Contrary to the commenter's assertion, these required components of the WEAP are detailed and include measurable performance standards for accomplishing the objectives of the WEAP. Additionally, the development of the WEAP must be conducted by a qualified archaeologist that meets the Secretary of the Interior's Professional Qualification Standards for Archaeology, and must ultimately be prepared to the satisfaction of the City. Thus, no change to the Draft EIR is required nor does MM-CUL-1 defer critical details necessary to reduce impacts.

In summary, this comment states MM-GEO-1 does not include details of the Paleontological Resources Impact Mitigation Program (PRIMP) to reduce potential impacts to paleontological resources. As described in Draft EIR Section 4.5, Geology and Soils, mitigation measure MM-GEO-1 includes numerous requirements that must be included in the program, which include: (1) must be consistent with the Society of Vertebrate Paleontology (SVP) (2010) guidelines, (2) must provide requirements for preconstruction meeting attendance and worker environmental awareness training, (3) must provide procedures for adequate paleontological monitoring and discoveries treatment, (4) must provide paleontological methods [including sediment sampling for microvertebrate fossils], reporting, and collections management, (5) must require that a qualified paleontologist attend the preconstruction meeting and a qualified paleontological monitor be on-site during all rough grading and other significant ground-disturbing activities [including augering] in previously undisturbed, Pleistocene Sand Dune deposits, and (6) in the event that paleontological resources (e.g., fossils) are unearthed during grading, must require that a paleontological monitor temporarily halt and/or divert grading activity to allow recovery of paleontological resources. Contrary to the commenter's assertion, these required components of the PRIMP are detailed and include measurable performance standards for accomplishing the objectives of the PRIMP. Additionally, the development of the PRIMP must be conducted by a qualified paleontologist that meets SVP guidelines and must ultimately be prepared to the satisfaction of the City. Therefore, no change to the Draft EIR is required.

In summary, this comment states MM-HAZ-1 does not include any specific performance standards for removal or a plan for review. As described in Draft EIR Section 4.7, Hazards and Hazardous Materials, mitigation measure MM-HAZ-1 includes language to ensure abatement procedures for the removal of specified materials are in compliance with federal, state, and local regulations, including those of the U.S. Environmental Protection Agency (which regulates disposal), Occupational Safety and Health Administration, U.S. Department of Housing and Urban Development, California Occupational Safety and Health Administration (which regulates employee exposure), and the South Coast Air Quality Management District. Section 4.7.2, Relevant Plans, Policies, and Ordinances, of the Draft EIR identifies federal, state, regional, and local regulations included for analysis of the proposed Project and compliance during Project activities. Additionally, Table 4.1, Mitigation Monitoring and Reporting Program, of the Final EIR identifies the City of El Segundo Development Services Department as the agency responsible for monitoring implementation of MM-HAZ-1. As such, mitigation measure MM-HAZ-1 includes the necessary performance standards and regulatory compliance in order to adequately reduce impacts. Therefore, no change to the Draft EIR is required.

In summary, this comment states MM-HAZ-2's proposed Hazardous Materials Contingency Plan (HMCP) does not include a plan or performance standards to mitigate soil vapor to less than significant levels. As described in Draft EIR Section 4.7, Hazards and Hazardous Materials, mitigation measure MM-HAZ-2 includes numerous requirements that must be included in the plan, which include: (1) must include training procedures for identification of contamination, (2) must describe procedures for assessment, characterization, management, and disposal of hazardous constituents, materials, and wastes, and notification in accordance with all applicable state and local regulations, (3) must manage and dispose of any contaminated soils in accordance with local and state regulations, and (4) must include health and safety measures, which may include but are not limited to periodic work breathing zone monitoring and monitoring for volatile organic compounds using a handheld organic vapor analyzer in the event impacted soils are encountered during excavation activities. MM-HAZ-2 includes language to ensure the development of the proposed HMCP is in accordance with all applicable state and local regulations. Moreover, the MM-HAZ-2 states contaminated soils shall be managed and disposed of in accordance with local and state regulations. Section 4.7.2, Relevant Plans, Policies, and Ordinances, of the Draft EIR identifies federal, state, regional, and local regulations included for analysis of the proposed Project and compliance during Project activities. For example, in the event of asbestos removal, Project activities would be required to comply with the National Emission Standards for Hazardous Air Pollutants (Title 40 of the United States Code (USC), Chapter 1, Subchapter C, Part 61, Subpart M) and the Toxic Substances Control Act of 1976 (Title 15 USC, Chapter 53, Subchapter I, Section 2601 et seq.). Regarding the implementation of the proposed HMCP, Project activities would be required to comply with the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (California Health and Safety Code, Division 20, Chapter 6.11, Sections 25404–25404.9). Additionally, Table 4.1, Mitigation Monitoring and Reporting Program, of the Final EIR identifies the City of El Segundo Development Services Department as the agency responsible for monitoring implementation of MM-HAZ-2. As such, mitigation measure MM-HAZ-2 includes the necessary performance standards and regulatory compliance in order to adequately reduce impacts. Therefore, no change to the Draft EIR is required.

1-16 In summary, this comment states that the Draft EIR does not support its findings with substantial evidence.

This comment does not express any environmental comments or concerns related to the analyses in the Draft EIR. Instead, as shown in Comments 1-17 through 1-20, concerns related to greenhouse gas emissions, air quality, transportation, and hazards and hazardous materials are identified as specific examples of the commenter's concern. Please see Responses to Comments 1-17 through 1-20 for more discussion.

1-17 In summary, the comment begins with an overview of caselaw related to greenhouse gas (GHG) emissions and asserts the Draft EIR did not support its findings on GHG impacts, utilized an incorrect quantitative analysis of GHG emissions, incorrectly relied upon an outdated quantitative GHG threshold, did not identify a potentially significant GHG impact; did not consider performance-based standards under California Air Resources Board's (CARB's) 2017 Scoping Plan or performance-based standards under Southern California Association of Governments' (SCAG's) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) plan, and did not consider all feasible mitigation to reduce GHG emissions.

No details or substantiation for these comments is provided; rather, the comment summarizes in a bulleted list the reasons that are discussed in detail the SWAPE letter dated April 12, 2021. Responses to the more detailed issues raised in that letter are included in Responses to Comments 1-29 through 1-49 below. None of the issues raised constitute new information that would result in significant impacts that would result in the need for recirculation of the Draft EIR. Please refer to Responses to Comments 1-29 through 1-49 below.

1-18 In summary, the comment asserts the Draft EIR's Air Quality analysis is not supported by substantial evidence.

No details or substantiation for these comments is provided; rather, the comment summarizes in a bulleted list the reasons that are discussed in detail the SWAPE letter dated April 12, 2021. Responses to the more detailed issues raised in that letter are included in Responses to Comments 1-30 through 1-42 below correspond to each of the bulleted items listed in the comment. None of the issues raised constitute new information that would result in significant impacts that would result in the need for recirculation of the Draft EIR. Please refer to Responses to Comments 1-30 through 1-42 below.

1-19 In summary, this comment states that the VMT analysis does not accurately reflect total VMT as home-based VMT analysis does not includes trips made from the other uses on the Project site, such as retail and hotel.

In the absence of VMT guidance from the City of El Segundo, State CEQA guidance from the Governor's Office of Planning and Research (OPR) was used. This document provides suggestions to lead agencies regarding methodologies to analyze VMT associated with a project. For residential projects, OPR recommends that a proposed project exceeding a level of 15% below existing daily household VMT per capita may indicate a significant transportation impact. Household VMT per capita for PCC was determined by using the Southern California Association of Government's (SCAG) 2016 Regional Transportation Plan (RTP) travel demand model. The SCAG travel demand model identifies trip purposes as Home-Based Work (HBW) and Home-Based Other (HBO), where trips have been produced by residential land uses and trips have been attracted by nonresidential land uses. Therefore, all trips produced or attracted to the residential use have been included in the VMT analysis for the project and provides an accurate estimate of the project related VMT per capita or resident.

While this is a mixed-use project with retail uses, the State's guidance does not require VMT analysis for local-serving retail land uses on the grounds that they do not increase VMT and defines local serving as less than 50,000 square feet. Since the proposed commercial components of the Project total 11,252 square feet, (i.e., less than 50,000 square feet) the VMT analysis properly focused on the proposed residential components of the Project. The hotel uses are already an existing use on the Project site and therefore, were not included in the analysis.

This comment also includes a footnote referring to the City of Santa Clarita VMT Guidelines. The Santa Clarita guidelines are intended to provide guidance for office, retail, and residential projects and thus discusses all of the different trip types. The Santa Clarita guidelines follows the OPR guidance in screening local serving retail projects with less than 50,000 square feet from VMT analysis as local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel. The guidelines also provides thresholds for each project type as outlined in the OPR guidance. Although Santa Clarita's local CEQA guidelines are in no way applicable to the City of El Segundo, it can be noted for purposes of this response that the analysis done in this EIR is consistent with the Santa Clarita guidelines. No change to the Draft EIR is required.

1-20 In summary, this comment states that additional investigation is required to characterize contamination on the Project site associated with nearby contaminated sites, including the adjacent gas station and regional tetrachloroethylene (PCE) and trichloroethylene (TCE) contamination.

With regards to the PCE and TCE contamination: As noted in the second paragraph of Draft EIR page 4.7-5, groundwater flow is west-southwest, making the PCE contamination plume downgradient from the Project site. The known and suspected contamination sources listed as part of the investigation are also downgradient of the Project site. Investigations on nearby properties, conducted between 2016 and 2018, further evidence the regional PCE and TCE contamination observed southwest of the subject property has not impacted the area of the Project site (see Appendix F of the Draft EIR).

Furthermore, a soil vapor investigation was conducted at 650 and 700 N Pacific Coast Highway, less than 200 feet northeast of the Project site, did not identify PCE or TCE contamination in soil vapor above current (2019) Environmental Screening Levels (ESLs) (City of El Segundo 2021). As such, there are no identified sources of PCE or TCE on, adjacent to, or upgradient of the Project site, there is no evidence of contamination upgradient of the Project site, and there is no evidence that the contamination plume has impacted the Project site. The Phase I ESA determined that there were no conditions that would require further analysis. Therefore, there is no evidence of impacts to future occupants.

With regards to the gas station, it is noted that contamination may be present due to operational violations, but contamination has not been identified during multiple former investigations. Out of an abundance of precaution, MM-HAZ-2 was proposed to mitigate the most likely potential contamination which may be identified during construction. Should any contamination be identified, it would be removed, the release would be reported in accordance with environmental regulatory rules and regulations (California Code of Regulations Title 19, Section 2631), and confirmation sampling would be conducted to confirm removal. These actions would further remove potential impacts to future occupants during operation of the proposed Project. No changes or additions to the project description or analyses included in the Draft EIR are required.

1-21 In summary, this comment states the Draft EIR's Project Objectives are narrow and affect the consideration of reasonable alternatives, specifically related to Project Objectives 1 and 5.

Each project objective was prepared in accordance with Section 15124(b) of the State CEQA Guidelines. Project Objective 1 is outlined in Draft EIR Section 3.5, Project Objectives, and states the following, "Provide for comprehensive site planning that maintains the existing hotel uses while providing for a mixed-use multiple-family and commercial neighborhood that is compatible with the surrounding land uses" (Draft EIR page 3-18). Contrary to the commenter's assertion, this objective is an accurate articulation of the Project Applicant's objective, which is consistent with CEQA Guidelines Section 15126.6, and would allow for consideration of a range of alternatives with reduced impacts on the environment. Alternative development scenarios are not unduly constrained by the retention of the existing hotels, as additional residential and commercial uses could occur in multiple configurations. Further, the commenter's potentially preferred scenario of not maintaining the existing hotels would not be beneficial from an environmental perspective (i.e., would increase demolition and construction-related impacts to the environment).

With regard to Objective 5, the comment notes the objective calls for "increasing the efficient use of land by eliminating surface parking lots and providing parking garages that allow for sharing among hotel commercial, and residential land uses." Contrary to the commenter's assertion, this objective is an accurate articulation of the Project Applicant's objective, which is also consistent with CEQA Guidelines Section 15126.6, and would allow for consideration of a range of alternatives with reduced impacts on the environment. Eliminating underutilized surface parking lots to allow for a densification of land use intensity and a diversity of land uses that share parking facilities to minimize parking and encourage alternative modes of transportation is specifically supportive of many City General Plan policies and objectives as outlined in Table 4.9-1 in Section 4.9, Land Use and Planning, and SCAG RTP/SCS goals as outlined in Table 4.6-6 in Section 4.6, Greenhouse Gas Emissions of the Draft EIR.

Importantly, both of these Objectives allow for numerous potential alternative development scenarios that involve both additional residential and commercial uses in multiple configurations. The retention of the existing hotels and redevelopment of underutilized surface parking are objectives of the Project Applicant and would not limit consideration of a reasonable range of alternatives. Further, CEQA Guidelines Section 15126.6(c) states: "the range alternatives to the proposed project shall include those that could feasibly accomplish ***most of the basic objectives*** of the project and could avoid or substantially lessen one or more of the significant effects." (emphasis added). Therefore, contrary to the commenter's assertion, these two Project Objectives would not "curtail any meaningful analysis or consideration of Project alternatives that substantially reduce the Project's environmental impacts." No changes to the Draft EIR are required.

1-22 In summary, this comment cites provisions of the California Government Code and case law for background on State planning and zoning law.

The comment does not raise any specific concerns related to the adequacy of the environmental analysis in the EIR; therefore, no further response to this comment is required.

1-23 In summary, this comment states the Draft EIR does not demonstrate consistency with the Southern California Association of Governments (SCAG) Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS), in accordance with SB 375, and cites Comments 1-28 through 1-51 for examples.

Draft EIR Section 4.9, Land Use and Planning discusses regional regulations such as the SCAG RTP/SCS within Section 4.9.2, Relevant Plans, Policies, and Ordinances (Draft EIR page 4.9-4). Moreover, under Section 4.9.4, Impact Analysis, and Table 4.6-6, Project Consistency with the Connect SoCal (SCAG 2020-2045 RTP/SCS) within Section 4.6, Greenhouse Gas Emissions, of the Draft EIR analyzes the proposed Project's consistency with each goal identified within the SCAG RTP/SCS (Draft EIR pages 4.9-11 through 4.9-12 and 4.6-33 through 4.6-37). However, this particular comment does not identify the aforementioned specific examples related to the analysis in the Draft EIR. Additionally, please see Responses to Comments 1-26 and 1-28 through 1-51, below, for more discussion.

1-24 In summary, this comment states the Draft EIR does not demonstrate consistency with State Housing Element law and cites provisions of the California Government Code and case law for background.

Draft EIR Section 4.9, Land Use and Planning discusses the City's General Plan and zoning regulations within Section 4.9.2, Relevant Plans, Policies, and Ordinances (Draft EIR pages 4.9-5 through 4.9-8). Moreover, under Section 4.9.4, Impact Analysis, Table 4.9-1, General Plan Consistency Analysis, outlines the applicable policies of the General Plan and analyzes the proposed Project's consistency with each applicable provision (Draft EIR pages 4.9-12 through 4.9-33). Applicable goals and policies of the City's Housing Element are identified and subsequent Project consistency analyses are detailed under Table 4.9-1 on Draft EIR pages 4.9-20 and 4.9-21. The comment does not identify specific examples of inconsistency within the Draft EIR's consistency analysis.

Additionally, the comment asserts the Draft EIR does not analyze consistency with the latest Regional Housing Needs Allocation (RHNA) and states the Project as proposed does not include affordable housing units. Moreover, the comment states the Draft EIR's provision for a future development agreement should be included within the Draft EIR's Project Description.

Section 4.11, Population and Housing, of the Draft EIR details Housing Element law and the City's 5th and 6th Cycle RHNA allocation. Chapter 3, Changes to the Draft EIR, of the Final EIR revised the City's fair share allocation for the 2021-2029 RHNA planning period. As such, the comment correctly states the City's 6th Cycle RHNA allocation. However, the comment incorrectly asserts Draft EIR page 4.11-6 as the latest RHNA allocation. At the time of drafting the Draft EIR (February 2021), the City's 5th Cycle RHNA allocation was identified and discussed since this RHNA planning period ended in October 2021. In anticipation of the 6th Cycle, the Draft EIR includes Table 4.11-7, SCAG's 6th Cycle Estimate of RHNA Allocation based on Approved RHNA Methodology (Draft EIR page 4.11-10) and analyzes the Project's contribution to the current planning period in Section 4.11.4, Impact Analysis (Draft EIR page 4.11-17).

Lastly, as described in Chapter 3, Project Description, of the Draft EIR, the Project proposes 263 new housing units. Section 3.3.8, Development Agreement, further states (as the comment indicates) that the Project would provide benefits including some provision of affordable housing in return for a proposed Development Agreement between the City and the Applicant. Moreover, the Draft EIR states "[t]he full benefits will be negotiated between the parties but will not create any environmental impacts"

(Draft EIR page 3-17). As shown above, the Draft EIR adequately analyzes Project consistency with the City's Housing Element and demonstrates the addition of 263 new units would contribute to the City's RHNA allocation for the 6th Cycle (which started in October 2021). Furthermore, the affordable housing provision is outside the scope of CEQA. Per Section 15064(e) of the State CEQA Guidelines, "economic and social changes resulting from a project shall not be treated as significant effects on the environment." No changes to the Draft EIR's project description or environmental analyses are required. For informational purposes only, the Development Agreement (proposed at the time of drafting these Responses to Additional Comments) is comprised of a total of 32 affordable housing units (12% of the total housing units), including 1 very-low income unit and 14 low income units within PCC South, and 2 very-low income units and 15 low income units in PCC North.

1-25 In summary, this comment requests for the Project's denial and to revise and recirculate the EIR to address the aforementioned concerns.

The commenter's general opposition to the Project will be provided to the City's decision makers for their review and consideration. The comment does not raise any specific concerns related to the adequacy of the environmental analysis in the EIR; therefore, no further response to this comment is required.

Response 1-26 is for "Exhibit A of A, March 8, 2021 SWAPE Letter to Mitchell M. Tsai"

1-26 In summary, the commenter states that by implementing a local hire provision requiring 10-mile worker trip lengths, the Project could reduce potential GHG emissions associated with construction worker trips.

This comment is interpreted to be a request that the City implement a "local hire" requirement on the proposed Project, citing benefits to greenhouse gas, air quality, and transportation impacts through decreased trip lengths. As stated in Draft EIR Sections 4.2, Air Quality, 4.6, Greenhouse Gas Emissions, and Section 4.13, Transportation, there are no significant short-term construction-related or long-term operational environmental impacts that are related to the length of vehicle trips or the proximity of workers to the Project site. CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 4.6.3, Thresholds of Significance. Construction of the proposed Project was anticipated to commence in October 2021 and reach completion in July 2024, lasting a total of 34 months.[1] On-site sources of GHG emissions include off-road equipment and off-site sources including haul trucks, vendor trucks, and worker vehicles. Overall, the Project was estimated to result in approximately 1,977 MT CO_2e per year and 66 MT CO_2e amortized over 30 years consistent with SCAQMD guidance, which states that construction emissions should be amortized over 30 years (SCAQMD 2008). Thus, the GHG analysis adds amortized construction emissions to the estimated annual operational emissions and then compares operational emissions to the proposed SCAQMD threshold of 3,000 MT CO_2e per year. As presented on Table 4.6-4 of the EIR, the Project's GHG emissions associated with development of the proposed Project would be 2,921 MT CO_2e, which is below the SCAQMD GHG threshold of 3,000 MT CO_2e per year. No changes to the Draft EIR are required and additional mitigation measures are not required to reduce GHG emissions. Therefore, there is no obligation under CEQA to consider implementation of skilled and trained workforce requirements, and no changes to the EIR are required.

1 As explained in Section 4.2 of the Draft EIR, October 2021 represents the earliest possible start date. In practice, construction may begin at a later date. However, using an earlier start date for construction represents the worst-case scenario construction impacts, because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles.

Response 1-27 is for "Exhibits B and C of A, Curriculum Vitae for Paul Rosenfeld and Matt Hagemann"

1-27 This comment represents the curriculum vitae of Paul Rosenfeld, Ph.D., and Matt Hagemann, P.G., C.Hg. The comment does not express any environmental comments or concerns related to the environmental analysis in the Draft EIR. No response is required.

Responses 1-28 to 1-50 are for "Exhibit D of A, SWAPE Letter to Greg Sonstein"

1-28 In summary, the comment states that the Draft EIR fails to adequately evaluate the Project's air quality, health risk, and GHG impacts.

The comment does not raise any specific concerns related to the adequacy of the environmental analysis in the EIR; therefore, no further response to this comment is required.

1-29 In summary, the comment states that changes to the default modeling inputs in the CalEEMod modeling were incorrect and questions the estimated GHG emissions quantified in the Draft EIR and underlying assumptions included in the model.

As specifically identified in the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 User's Tips documentation, "Users are encouraged to understand the defaults and provide site specific data (e.g., construction schedule, construction equipment type, results of traffic study, predicted water usage, etc.), if available, for a more accurate analysis" (CAPCOA 2017). As such, the changes to the default CalEEMod assumptions for the project emissions modeling were appropriate based on applicant input and project-specific information.

CalEEMod provides default values for input parameters such as for high-turnover restaurant, mid-rise apartments, and retail square footages. After the minimum project characteristic and land use information is inputted, CalEEMod provides default values so that the model may still be used to evaluate emissions from a land use development project in the event that such detailed information is not yet known (for instance, for a project in the planning stage). Similarly, CalEEMod provides a host of default values for the construction emissions analysis. Construction default values were utilized where Project information was not readily available. Default inputs that were updated according to information provided by the applicant include construction schedule phase lengths for major activities (e.g., demolition, grading, building construction, paving, and architectural coating); construction equipment lists for these major activities and hours of usage per day, construction truck and vehicle worker trips, and grading/excavation information. The construction methodology including information provided by the applicant are provided in the Draft EIR beginning on page 4.2-24 in Section 4.2.4, Approach and Methodology and beginning on page 4.6-26, Section 4.6.3, Approach and Methodology.

Project-specific information was applied to the CalEEMod model where appropriate and based on information obtained from the Project applicant regarding site-specific characteristics of the site and Project components. The Project applicant and their contractor(s) represent 'experts' in estimating construction activities for the Project based on their experience with similar projects and their need to estimate construction activities, such as duration of construction and equipment needed, for budgeting. Substantial evidence is defined in the CEQA statute to mean "facts, reasonable assumptions predicated on facts, and expert opinion supported by facts" (14 CCR 15384(b)). Because assumptions provided the Project applicant and their team represent an expert opinion supported by facts, these assumptions constitute substantial evidence under CEQA that can be used to more accurately estimate project-generated emissions.

Regarding operations, Project-specific data was used from the transportation analysis including the Project's trip generation rates for each land use type. The emissions estimates also assume compliance with regulations (state or local) are also taken into account for certain input variables such as compliance with building energy standards and utility renewable energy standards, as adopted by the State of California, some of which are not currently programmed into the model by default since many laws have been updated since the release of the model. Therefore, the use of Project-specific data in CalEEMod is appropriate and fully in line with the CalEEMod User's Guide and the Draft EIR's analysis is based on substantial evidence and is adequate as presented. No revisions to the Draft EIR are required.

Regarding the commenter's question about CalEEMod input consistency with the Draft EIR, please refer to Response to Comment 1-30.

1-30 In summary, the comment states that Appendix C-1 contains model inputs were not consistent with information disclosed in the Draft EIR, specifically that the CalEEMod land use inputs were not consistent with the project description land use metrics.

The minor discrepancy in the modeled inputs have been adjusted for the purpose of responding to this comment and are presented below. As shown, adjustments to CalEEMod have been conducted, which include revisions to the square footage as well as updates to the model. The Draft EIR CalEEMod inputs assumed 314,659 square feet of residential space, 11,000 square feet of commercial/retail space, and 763 parking spaces. The revised CalEEMod inputs assume 327,021 square feet of residential development, 11,252 square feet of commercial/retail uses, and 792 parking spaces.

At the time that the Project's Notice of Preparation (NOP) was released and the time that the analysis was prepared, the version of the CalEEMod was Version 2016.3.2 was the most appropriate and available model to use for the analysis. CalEEMod Version 2020.4.0 was released in June 2021. As with previous updates of CalEEMod, CalEEMod 2020.4.0 includes updates per current industry values and bug fixes. The key changes incorporated into CalEEMod 2020.4.0 were incorporating the CARB EMFAC 2017 update, including the Institute of Transportation Engineers 10th edition trip rates released in 2017, and incorporation of 2019 Title 24 Standards. The results of this re-run of CalEEMod to incorporate the minor discrepancies in the data inputs and the updated CalEEMod are shown below, in comparison to the results shown in the Draft EIR. As shown, the changes in the CalEEMod outputs are negligible when compared to the outputs in the Draft EIR and the significance thresholds. As such, the negligible changes in modeling results shown below are not substantive, do not change the analysis presented in the Draft EIR, do not result in new information, and do not require any revisions to the significance conclusions in the Draft EIR.

A portion of Table 4.2-9 from Section 4.2, Air Quality of the Draft EIR is repeated below and includes the estimated maximum daily construction emissions generated during construction of the proposed Project as assessed in the Draft EIR as well as the emissions generated by the updated CalEEMod analysis. Details of the updated emission calculations are provided in Appendix A to this document.

Additional Data for Draft EIR Table 4.2-9. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Maximum Construction Emissions	VOCs	NOx	CO	SOx	PM10	PM2.5
	Pounds per Day					
Draft EIR Maximum Daily Emissions	**49.34**	**41.60**	**27.18**	**0.08**	**4.52**	**2.61**
SCAQMD threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Updated Maximum Daily Emissions	**49.05**	**41.22**	**27.73**	**0.07**	**4.52**	**2.62**
Difference	**(0.29)**	**(0.38)**	**0.55**	**(0.01)**	**0.00**	**0.01**
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
VOCs = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
Emissions noted in parentheses represents a negative number.

A portion of Table 4.2-10 from Section 4.2, Air Quality of the Draft EIR is repeated below and includes the maximum daily area, energy, and mobile source emissions associated with operation (Year 2025) of the proposed Project as assessed in the Draft EIR as well as the emissions estimated in the updated CalEEMod analysis. Details of the updated emission calculations are provided in Appendix A to this document.

Additional Data for Draft EIR Table 4.2-10. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Total Operational Emissions	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Draft EIR Project Total	**11.47**	**19.12**	**53.79**	**0.15**	**10.52**	**3.25**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Updated Project Total	**14.54**	**10.56**	**69.92**	**0.13**	**10.55**	**3.24**
Difference	3.07	(8.56)	16.13	(0.02)	0.03	(0.01)
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
VOCs = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
Emissions noted in parentheses represents a negative number.

A portion of Table 4.2-11 from Section 4.2, Air Quality of the Draft EIR is repeated below and includes the localized significance thresholds for construction activities of the proposed Project as assessed in the Draft EIR as well as the emissions generated by the updated CalEEMod analysis. Details of the updated emission calculations are provided in Appendix A to this document.

Additional Data for Draft EIR Table 4.2-11. Localized Significance Thresholds Analysis for Project Construction

Maximum On-Site Emissions	NO_2	CO	PM_{10}	$PM_{2.5}$
	Pounds per Day			
Draft EIR Project Total	40.50	21.15	2.80	2.44
SCAQMD LST	91	664	5	3
LST exceeded?	**No**	**No**	**No**	**No**
Updated Construction Emissions	**27.52**	**18.24**	**1.58**	**1.23**

Additional Data for Draft EIR Table 4.2-11. Localized Significance Thresholds Analysis for Project Construction

Maximum On-Site Emissions	NO_2	CO	PM_{10}	$PM_{2.5}$
	Pounds per Day			
Difference	(12.98)	(2.91)	(1.58)	(1.21)
LST exceeded?	**No**	**No**	**No**	**No**

Notes:
NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
Emissions noted in parentheses represents a negative number.

A portion of Table 4.6-3 from Section 4.6, Greenhouse Gas Emissions of the Draft EIR is repeated below and includes the construction GHG emissions for construction activities of the proposed Project as assessed in the Draft EIR as well as the GHG emissions generated by the updated CalEEMod analysis. Details of the updated emission calculations are provided in Appendix A to this document.

Additional Data for Draft EIR Table 4.6-3. Estimated Annual Construction Greenhouse Gas Emissions

Total Construction Emissions	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Draft EIR Project Total	**1,969.95**	**0.28**	**0**	**1,977.08**
Updated Construction Emissions	**1,851.36**	**0.26**	**0**	**1,877.17**
Difference	(118.59)	(0.02)	0	(99.91)

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrogen dioxide; CO_2e = carbon dioxide equivalent.
Emissions noted in parentheses represents a negative number.

A portion of Table 4.6-4 from Section 4.6, Greenhouse Gas Emissions of the Draft EIR is repeated below and includes the operational GHG emissions (including the amortized construction emissions) for operational activities of the proposed Project as assessed in the Draft EIR as well as the GHG emissions generated by the updated CalEEMod analysis. Details of the updated emission calculations are provided in Appendix A to this document.

Additional Data for Draft EIR Table 4.6-4. Estimated Annual Operational Greenhouse Gas Emissions

Total Operational Emissions	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Draft EIR Project Total	2,435.45	1.17	0.02	2,920.96
Updated Operational Emissions	**2,443.28**	**1.20**	**0.02**	**2,563.72**
Difference	7.83	0.03	0	(357.24)

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrogen dioxide; CO_2e = carbon dioxide equivalent.
Emissions noted in parentheses represents a negative number.

The proposed Project's construction health risk assessment (HRA) used the estimated annual construction exhaust PM_{10} emissions as a surrogate for diesel particulate matter (DPM), generated during construction of the Project. As presented in Additional Data for Draft EIR Table 4.2-9 above, the revised estimations of construction emissions indicate that PM_{10} emissions would not change compared to what was estimated in the Draft EIR. Therefore, the results of the HRA for the Project would remain unchanged and the Project would result in a less than significant impact after implementation of mitigation measure MM-AQ-1.

As discussed in Section 4.4, Energy, of the Draft EIR, fuel consumption from construction equipment was estimated by converting the total CO_2 emissions from each construction phase to gallons using conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO_2 per gallon. Furthermore, fuel consumption from mobile trips, during both construction and operations, was also estimated by converting the total CO_2 emissions from the construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. As presented in Additional Data for Draft EIR Tables 4.6-3 and 4.6-4 above, the revised CO_2 emissions generated during both construction and operations are expected to negligibly change compared to the CO_2 emissions estimated in the Draft EIR. Therefore, the petroleum consumption associated with the proposed Project would not be considered inefficient or wasteful and impacts would remain less than significant impact.

1-31 In summary, the comment states that the Draft EIR did not include the total amount of demolition haul trips required for the Project and claims that the default number of demolition hauling trips was underestimated by 431 trips.

CalEEMod provides default values for input parameters such as for high-turnover restaurant, mid-rise apartments, and retail square footages. After the minimum project characteristic and land use information is inputted, CalEEMod provides default values so that the model may still be used to evaluate emissions from a land use development project in the event that such detailed information is not yet known (for instance, for a project in the planning stage). Similarly, CalEEMod provides a host of default values for the construction emissions analysis. Construction default values were utilized where Project information was not readily available. Default inputs that were updated according to information provided by the applicant include construction schedule phase lengths for major activities (e.g., demolition, grading, building construction, paving, and architectural coating); construction equipment lists for these major activities and hours of usage per day, construction truck and vehicle worker trips, and grading/excavation information. The construction methodology including information provided by the applicant are provided in the Draft EIR beginning on page 4.2-24 in Section 4.2.4, Approach and Methodology and beginning on page 4.6-26, Section 4.6.3, Approach and Methodology.

Haul truck trips during the demolition phase was based on demolition and earthwork quantities provided by the Project's applicant. During Phase 1, it was assumed that 41,660 square feet of buildings and 6,000 square feet of pavement would require demolition. For Phases 2 and 3, it was assumed that a total of 131,000 square feet of pavement would require demolition. In order to estimate the number of haul trucks from pavement removal, CalRecycle's Construction/Demolition and Inert Debris Tools and Resources rate of 2,400 pounds per cubic yard of debris for asphalt was utilized. Assuming a depth of 4 inches and an area of approximately 3.01 acres of pavement to be removed would result in a volume of approximately 1,939 tons of debris. Therefore, Project was estimated to result in 200 one-way haul trips during the demolition phase of Phase 1. In addition, the Project would result in 200 one-way haul trips during the demolition subphase of Phase 2/3. The commenter states that the model should have included 178,660-square-feet of demolition, which is an incorrect assumption. CalEEMod estimates demolition trips based on the square footage of buildings to be demolished and/or the tons of debris to be removed. The commenter incorrectly summed the existing buildings square footage with the total pavement area, thus overstating the amount of haul trips required for the demotion phase, since the commenter states the total demolition of building material would be 178,660-square-feet. Notably, pavement debris in CalEEMod is expressed as tons of debris, not square footage of the area. Therefore, no changes to the Draft EIR are required.

1-32 In summary, the comment states that the Draft EIR incorrectly estimates the grading acreage.

The Project's total acres of grading was accurately estimated in CalEEMod, which is based on Project site specific information. As discussed in Section 3.1, Project Description of the Draft EIR, the total site includes 6.23 acres, which includes the developed hotel properties. As such, 3.88 acres would be subject to grading/construction activities for Phases 1 and 2/3. Contrary to the commenter's assertion, the text included from the CalEEMod User Guide does not demonstrate an insufficiency regarding the analysis presented in the Draft EIR. The total net acreage to be graded of 3.88 acres, as provided by the proposed Project applicant, was used to determine the total area to be graded during each grading phase of the proposed Project. The text emphasized by the commenter appears to expressly condone the use of the total area to be graded as a means of determining the amount of grading needed on the site. Furthermore, each grading phase (Phase 1 and 2/3) is assumed to occur over two months, with multiple pieces of construction equipment working within each of the sites for the duration of the proposed Project's construction. Two-month grading period for each phase with multiple pieces of equipment working within the site, represents a reasonable, if not conservative, approach to analysis for grading a total of 3.88 acres. Therefore, the model was updated based on site specific information provided by the proposed Project applicant and no changes to the Draft EIR are required.

1-33 In summary, the comment states that the Draft EIR incorrectly makes adjustments to the material moisture content contained in the model.

The default values in CalEEMod model for the road dust (e.g., material silt content, material moisture content, and mean vehicle speed) are statewide averages used in the EPA's AP-42 methods for calculating fugitive dust emissions from paved and unpaved roads. Users are able to override the defaults in CalEEMod if data specific to the project is known. Furthermore, local jurisdictions can also provide guidance to users as to what default properly reflects known regional road dust parameters. The proposed Project site is underlain by quaternary Dune Sand deposits, Appendix E of the Draft EIR. It was determined that the proposed Project site is likely to be underlain by similar subsurface sandy materials with a thin cap of artificial fill. Overall, the underlying soils are likely to be comprised of Dune Sand deposits, which has a high concentration of sand that gives them a gritty feel, with varying amount of silt and clay materials that should be slightly moist to moist and loose to very dense. Density is anticipated to increase with depth. The proposed Project would be required to comply with the provisions in SCAQMD Rule 403 to prevent, reduce or mitigate fugitive dust emissions from each grading site. SCAQMD Rule 403 restricts visible fugitive dust to the project property line, restricts the PM10 emissions to less than 50 micrograms per cubic meter (μg/m3) and restricts the tracking out of bulk materials onto public roads. Additionally, the proposed Project will utilize one or more of the best available control measures (identified in the tables 1 and 2 of the rule), which may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering of all active sites periodically, maintaining moisture content of exposed soils, using chemical stabilizers and/or ceasing all activities during periods of high wind. Furthermore, the geotechnical due-diligence report indicated that the maximum moisture content of soils sampled was approximately 16.9%. In addition, the percentage of silt in CalEEMod was adjusted based on the UC Davis Soil Resource Laboratory for the Project area. The interactive tool allows for the identification of U.S. Department of Agriculture-National

Cooperative Soil Survey (USDA-NCSS) soil survey data for locations throughout the State. Soils within the Project area would be comprised of approximately 3.7% clay and 93% sand, with the remainder being silt. Therefore, the model was updated based on site specific information the applied moisture content of exposed soils and the excavation materials silt characteristics provided included in the geotechnical due-diligence report by the proposed Project applicant in order to reduce fugitive dust emissions during all graining and earthwork activities per SCAQMD Rule 403. Therefore, the model was updated based on site specific information provided by the proposed Project applicant and no changes to the Draft EIR are required.

1-34 In summary, the comment states that the Draft EIR incorrectly makes adjustments to the material silt content contained in the model.

Please see Responses to Comment 1-33.

1-35 In summary, the comment states that the Draft EIR incorrectly makes adjustments to the haul trips contained in the model. The number of hauling trips was collectively reduced by 386 trips, from the cumulative default value of 2,506 trips to 2,120 trips.

The Project's demolition and total acres of grading was accurately estimated in CalEEMod, which is based on Project site specific information provided by the proposed Project applicant. Overall, the proposed Project would result in the grading of 3.88 acres. Construction worker estimates and vendor truck trips by construction phase were based on information provided by the Project applicant. Haul truck trips during the demolition and grading phases were based on demolition and earthwork quantities provided. During Phase 1, it was assumed that 41,660 square feet of buildings and 6,000 square feet of pavement would require demolition. For Phases 2 and 3, it was assumed that a total of 131,000 square feet of pavement would require demolition. Grading is estimated to involve 17,700 cubic yards of soil for export, which would be required for Phase 2. Per information provided by the applicant, the Project was assumed to use haul trucks with a capacity of 20 cubic yards during grading/excavation activities. Therefore, Project was estimated to result in 200 one-way haul trips during the demolition phase of Phase 1. In addition, the Project would result in 200 and 1,720 one-way haul trips during the demolition and grading subphases of Phase 2/3. The commenter states that the model should have included at least 178,660-square-feet of demolition, which is an incorrect assumption (refer to Response to Comment 1-31). CalEEMod estimates demolition trips based on the square footage of buildings to be demolished and/or the tons of debris to be removed. The commenter incorrectly summed the existing buildings square footage with the total pavement area, thus overstating the amount of haul trips required for the demotion phase, since the commenter states the total demolition of building material would be 178,660 square feet. Therefore, no changes to the Draft EIR are required.

1-36 In summary, the comment states that the Draft EIR fails to mention or justify the changes to the construction related architectural coating areas.

The CalEEMod model assumed the default architectural exterior and interior square footages as presented in Appendix C-1 of the Draft EIR. CalEEMod however assumes that the Project's total square footage (325,659 square feet of buildings and 317,850 square feet of parking area) would undergo application of architectural coatings for both Phases 1 and Phases 2/3 concurrently, thus overestimating emissions of volatile organic compounds (VOCs). Therefore, in order to correctly estimate the application of architectural coatings for both Phase 1 and Phases 2/3, the default exterior and interior square footages were utilized in the model which was reallocated based on the specific development undertaken during Phase 1 and Phases 2/3. As previously discussed, Phase 1 would include development of 3,273 SF of retail and 187 parking spaces; Phase 2 would include development of 120 dwelling units (146,550 SF), 2,056 square feet of retail and 3,700 square feet of restaurant, and 336 parking spaces; and Phase 3 would include development of 143 dwelling units (176,039 SF), 2,223 square feet of retail, and 240 parking spaces. Thus, the interior and exterior architectural square footages used in CalEEMod reflect the specific land use quantities inputted in the land use section of CalEEMod but adjusted for the specific construction phases (Phase 1 and Phases 2/3). Therefore, no changes to the Draft EIR are required.

1-37 In summary, the comment states that the air quality and GHG emissions modeling underestimates the number of weekday and Sunday trips during operations.

The proposed Project's trip generation from Section 4.13, Transportation of the Draft EIR, indicated that the overall trips generated from operations would be 2,517 weekday trips. The CalEEMod data was based on 2,507 trips and has been updated for the purpose of this response, as demonstrated in Response to Comment 1-29, which reflects that the proposed Project would generate approximately 2,517 trips. The air quality and GHG emission calculations modeling were revised as presented in Tables 4.2-10 and Table 4.6-4. Furthermore, the commenters assertion that weekday and Sunday trips were underestimated are incorrect. The Saturday and Sunday trip generation rates were adjusted based on the default proportions allocated in CalEEMod, based on the weekday trip generation rates presented in Table 4.13-1 of Section 4.13, Transportation. As presented in Table 4.2-10 and 4.6-4, the proposed Project-generated criteria air pollutant and GHG emissions would minimally change compared to the output presented in the Draft EIR, assuming the same trip generation from Section 4.13, Transportation. Details of the updated emission calculations are provided in Appendix A to this document.

1-38 In summary, the comment states that the air quality and GHG emissions modeling included unsubstantiated changes to the default energy use values, and the model may underestimate the Project's energy-source operational emissions.

Page 4.2-28 of Section 4.2 discusses that the input parameters were adjusted in good faith in compliance with the 2019 Title 24 standards since CalEEMod Version 2016.3.2 assumes compliance with the 2016 Title 24 standards. The 2019 Title 24 standards are the currently applicable building energy efficiency standards that became effective on January 1, 2020. As discussed in Section 4.2, Air Quality (page 4.2-28), the California Energy Commission (CEC) Impact Analysis for the 2019 Update to the California Energy Efficiency Standards for Residential and Non-Residential Buildings, the first-year savings for newly constructed non-residential buildings, are 197 gigawatt hours of electricity, 76.6 megawatts of demand, and 0.27 million therms of gas, representing reductions from the 2016 Title 24 standard of 10.7%, 9%, and 1%, respectively. The first-year savings for multi-family buildings are 91 gigawatt hours, 4.1 megawatts of demand, and 0.25 million therms of gas. On a percent savings basis compared to the 2016 standards, the multi-family, savings are 2% of electricity, 8% of demand and 5% of gas. Furthermore, the 2022 Title 24 standards are under development. The 2022 standards focus on four key areas in new construction: encouraging electric heat pump technology and use; establishing electric-ready requirements when natural gas is installed; expanding solar photovoltaic system and battery storage standards; and, strengthening ventilation standards to improve indoor air quality. In August 2021, the CEC adopted the 2022 standards; but, before those standards can become effective, they must be approved by the California Building Standards Commission. If approved, the 2022 Title 24 standards will go into effect on January 1, 2023. Therefore, the Project would likely need to meet the more stringent 2022 standards. Therefore, no changes to the Draft EIR are required.

1-39 In summary, the comment states that the air quality and GHG emissions modeling included unsubstantiated changes to the default wastewater treatment system percentages. The model assumes that the Project's wastewater would be treated 100% aerobically. The commenter states that the use of 100% aerobic wastewater treatment percentages in the model is incorrect.

As shown on Page 44, Appendix A, Calculation Details for CalEEMod solids produced from aerobic processes are digested in anaerobic digesters; thus, anaerobic facilities are assumed in the CalEEMod aerobic wastewater treatment process (CAPCOA 2017). Furthermore, the wastewater treatment system assumptions are used by CalEEMod to quantify the Project's GHG emissions associated with wastewater treatment. Therefore, no changes to the Draft EIR are required.

1-40 In summary, the comment states that the air quality emissions modeling included these measures, based solely on the Project's compliance with SCAQMD Rule 403, is unsubstantiated.

The proposed Project would be required to comply with SCAQMD Rule 403 to control dust emissions generated during the grading activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites three times per day depending on weather conditions which was reflected in the modeling's "mitigated" output which would result in a 55% reduction in fugitive dust emissions. As discussed in Section 4.2, Air Quality, of the Draft EIR (page 4.2-14), the Project would be required to comply with all applicable SCAQMD Rules and Regulations, including, but not limited to, Rule 401 (Visible Emissions), Rule 402 (Nuisance), and Rule 403 (Fugitive Dust). Compliance with these rules would minimize fugitive dust generated during Project construction to the maximum extent practical. Therefore, no changes to the Draft EIR are required.

1-41 In summary, the comment states that the CalEEMod operational mitigation measures included in the model are incorrect and may underestimate the Project's operational emissions.

In order to capture the traffic reductions based on the Project's site-specific location, the report on Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures was utilized. It is primarily focused on the quantification of project-level mitigation of GHG emissions associated with land use, transportation, energy use, and other related project areas. The Project would, improve the pedestrian network, this measure will increase the sidewalk coverage to improve pedestrian access. Providing sidewalks and an enhanced pedestrian network encourages people to walk instead of drive; improve transit access, the proposed Project would provide new living and working opportunities in close proximity to transit, thereby increasing ridership. Public transit that operates in the vicinity of the Project site includes the Metro C Line (formerly Green Line) and multiple bus lines. The Metro C Line is a light rail line running between Redondo Beach and Norwalk, with the closest station approximately 0.51-mile east of the Project site. There are two Metro bus lines, one Beach Cities bus line, and two Los Angeles Department of Transportation (LADOT) Commuter Express lines that run in the vicinity of the Specific Plan area (Metro Line 232; Metro Line 625; Beach Cities Line 109; LADOT Commuter Express 438; and LADOT Commuter Express 574); and would be located in an area with high destination accessibility, the Project site is located within an urbanized portion of the County of Los Angeles with access to housing and employment.

The commenter also states that the water reduction measures applied in CalEEMod was incorrect. The 20x2020 Water Conservation Plan sets forth a statewide road map to maximize the state's urban water efficiency and conservation opportunities between 2009 and 2020, and beyond. It aims to set in motion a range of activities designed to achieve the 20% per capita reduction in urban water demand by 2020. These activities include improving an understanding of the variation in water use across California, promoting legislative initiatives that incentivize water agencies to promote water conservation, and creating evaluation and enforcement mechanisms to assure regional and statewide goals are met. Furthermore, the Project would be required to meet the California Green Building Standards Code, also called the "CALGreen Code." As mandated by law, California buildings must reduce the maximum flow of water by 20% on all plumbing fittings and fixtures. Therefore, a 20% reduction in water usage was applied in CalEEMod in compliance with the CALGreen Code and state water reduction goals.

This commenter also states that the Draft EIR's GHG analysis incorrectly assumes reductions associated with solid waste emissions. The Draft EIR's assumption that the Project would reduce the amount of solid waste that would be landfilled by 50% was based on mandatory compliance with AB 939, AB 341, and AB 1826 (as discussed in Section 4.6, Greenhouse Gas Emissions). The Project would also provide storage areas for recyclables and green waste, as well as food waste storage. Therefore, the Project would comply with AB 939, AB 341, and AB 1826 would ensure that the anticipated solid waste reductions are realized. Therefore, no changes to the Draft EIR are required.

1-42 In summary, the comment states that the Draft EIR diesel particulate matter health risk emissions are inadequately evaluated and their screening-level construction HRA indicates a potentially significant impact.

Regarding the commenter's assertion the construction HRA relies upon a flawed air model, and as discussed in Response to Comments 1-29 through 1-35, the CalEEMod User's Tips documentation, "Users are encouraged to understand the defaults and provide site specific data (e.g., construction schedule, construction equipment type, results of traffic study, predicted water usage, etc.), if available, for a more accurate analysis". As such, the changes to the default CalEEMod assumptions for project emissions modeling were appropriate based on applicant input and Project-specific information.

The commenter also states that the Draft EIR failed to evaluate the Project's operational health risk impacts. The Project would not result in a long-term source of TAC emissions. No residual TAC emissions and corresponding cancer risk are anticipated after construction, and no long-term sources of TAC emissions are anticipated during operation of the Project. Additionally, CARB has published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005), which identifies certain types of facilities or sources that may emit substantial quantities of TACs and therefore could conflict with sensitive land uses, such as "schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities." The *Air Quality and Land Use Handbook* is a guide for siting of new sensitive land uses, but it does not mandate specific separation distances to avoid potential health impacts. The enumerated facilities or sources include the following:

- High-traffic freeways and roads
- Distribution centers
- Rail yards
- Ports

- Refineries
- Chrome plating facilities
- Dry cleaners
- Large gas dispensing facilities.

The Project would not include any of the previously listed land uses and would not expose sensitive receptors to TAC emissions from these sources.

Regarding the commenter's assertion that health risk impacts from Project operation should also be evaluated, a 30-year exposure duration vastly exceeds the 6-month requirement set forth by Office of Environmental Health Hazard Assessment (OEHHA). As discussed in the construction HRA (Appendix C-2 of the Draft EIR), the construction HRA was performed in accordance with the OEHHA approved the 2015 Risk Assessment Guidelines Manual (OEHHA 2015). SCAQMD requires that all HRAs prepared for CEQA documents follow SCAQMD policies in conjunction with the 2015 Risk Assessment Guidelines Manual. For the purposes of the construction HRA, given the less-than-lifetime exposure period, and the higher breathing rates and sensitivity of children to construction-generated TACs, the cancer risk calculation assumes that the exposure would affect children early in their lives. For the residential health risk, the HRA assumes exposure would start in the third trimester of pregnancy and occur for 34 months, over the duration of construction activities.

Regarding the commenter's assertion of the incorrect application of construction-related mitigation and failure to adequately analyze health risks associated with DPM, the commenter uses a screening model, known as AERSCREEN, to evaluate health risk impacts from diesel emissions during construction of the proposed Project. While the AERSCREEN model is an acceptable model by the U.S. Environmental Protection Agency's (EPA) and SCAQMD, it is a screening model. As a screening model, it overestimates impacts with the general understanding that if AERSCREEN does not show impacts, then impacts would also not occur if a more detailed analysis is conducted using a more refined model. AERSCREEN is a simplified model in that it does not consider meteorological data or topographical data. AERSCREEN assumes calm wind conditions at all times and a stable atmosphere (i.e., no atmospheric mixing). AERSCREEN also has simplified emissions input fields such that it typically overestimates emission impacts from varying construction activities.

In addition, the SCAQMD does not have guidance requiring that construction and operational health risk be evaluated together. Based on an email from Michael Krause, Planning and Rule Manager with SCAQMD, who is an expert, a project's construction and operational health risks need to be evaluated separately. Thus, the construction HRA is analyzed in accordance with industry guidance and an operational HRA is not necessary.

Further, the comment states that the commenter prepared a screening-level health risk assessment using changed CalEEMod inputs with the assumption that health risks should be combined for construction and operation of the Project. The commenter has not provided any substantive comments that would alter model inputs or the findings of the emissions calculations in the Draft EIR. Construction health risks were evaluated in the Draft EIR using the EPA and SCAQMD refined model, known as American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD). This model takes into account meteorological data and topographical data. It also accounts for the geography of a project site, locations of emissions sources, the time of day emissions would occur, locations of sensitive receptors, and other factors to a much greater degree than AERSCREEN, which better represents the real world environment. Based on the construction HRA using this refined model, AERMOD, using AERMOD methodologies from the SCAQMD, and using the age sensitivity factors and other health risk evaluation parameters recommended by the SCAQMD and the Office of Environmental Health Hazard Assessment (OEHHA), health risk impacts were determined to be less than the SCAQMD significance thresholds for cancer risk and non-cancer chronic risk for DPM after implementation of MM-AQ-1, which would require the use of Tier 4 interim equipment for all construction equipment greater than 75 horsepower.

The analysis was modeled to assume a construction start date of October 2021, which represented the earliest date of construction at the time the analysis was prepared, anticipating when air quality and GHG assessments would be initiated.[2] Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years. Tier 4 standards for engine horsepower between 11 horsepower and 75 horsepower were available starting in 2008. For engines with horsepower between 75 and 175, Tier 4 engines were available starting in 2012. For engine horsepower between 175 and greater than 1,200, Tier 4 engines were available starting in 2011. As such, equipment engines that meet Tier 4 emission standards are currently available at the time of this analysis, and would continue to be available during the Project's construction years (through 2024) (USEPA 2016).

Furthermore, an exemption from using Tier 4 equipment may be granted by the City of El Segundo if the Project proponent documents that equipment with the required tier is not reasonably available and provided corresponding reductions in criteria air pollutant emissions are achieved from other construction equipment. For example, if a Tier 4 Interim piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead (e.g., Tier 3), another piece of equipment would be replaced with an alternative-fueled (not diesel-fueled) equipment to offset the emissions associated with using a piece of equipment that does not meet Tier 4 standards. As such, the use of the air quality modeling results is correct and is appropriately relied upon. The Draft EIR adequately evaluated the proposed Project's potential health risk impacts from construction and determined that they would be less than significant after implementation of MM-AQ-1.

Therefore, based on the above considerations the Draft EIR's health risk analysis is adequate as presented.

1-43 The commenter states that the Draft EIR's GHG analysis, as well as the subsequent less-than-significant impact conclusion is incorrect.

Please see the following Responses to Comments:

1) The Draft EIR's quantitative GHG analysis relies upon an incorrect and unsubstantiated air model; Please refer to Responses to Comments 1-29 through 1-41.

2) The Draft EIR's quantitative GHG analysis relies upon an outdated threshold; Please refer to Response to Comment 1-45.

[2] As explained in Section 4.2 of the Draft EIR, October 2021 represents the earliest possible start date. In practice, construction may begin at a later date. However, using an earlier start date for construction represents the worst-case scenario construction impacts, because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles.

3) The Draft EIR's unsubstantiated air model indicates a potentially significant impact; Please refer to Response to Comment 1-46.

4) The Draft EIR fails to consider the performance-based standards under CARB's Scoping Plan; Please refer to Response to Comment 1-47.

5) The Draft EIR fails to consider the performance-based standards under SCAG's RTP/SCS; Please refer to Response to Comment 1-48.

1-44 The commenter states that the modeling underestimates the Project's emissions, and the Draft EIR's quantitative GHG analysis should not be relied upon to determine Project significance.

Please see Responses to Comments 1-29 through 1-41.

1-45 The commenter states that the Draft EIR incorrectly applies the GHG threshold of 3,000 MT CO2e per year.

Regarding the commenters assertion that the Draft EIR used an outdated quantitative GHG threshold, the South Coast Air Quality Management District (SCAQMD) formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1 Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2 Consider whether or not the project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3 Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 metric tons (MT) of carbon dioxide equivalent (CO_2e) per year threshold for industrial uses and stationary projects would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e per year), commercial projects (1,400 MT CO_2e per year), and mixed-use projects (3,000 MT CO_2e per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2e per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4 Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2e per service population for project level analyses and 6.6 MT CO_2e per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5 Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

Based on the supporting analysis outlined in SCAQMD's draft GHG guidance and meeting notes, this 3,000 MT CO_2e per year level would capture 90% of GHG emissions from new residential or commercial projects in the region (SCAQMD 2008). This type of market capture analysis captures a substantial fraction of the GHG emissions from future development to accommodate for future population and job growth and excludes small development projects that would contribute a relatively small fraction of the cumulative statewide GHG emissions.

Therefore, the Draft EIR relies on use of the 3,000 MT CO_2e per year threshold because it has been recommended by SCAQMD and SCAQMD is an expert agency in the region. Furthermore, the SCAQMD provides substantial evidence that the thresholds are consistent with policy goals and 2050 GHG emissions reduction targets set by the State. Specifically, the thresholds were set at levels that capture 90% of the GHG emissions form the above-described uses, consistent with Executive Order (EO) S-3-05 target of reducing GHGs to 80% below 1990 levels by 2050. No changes to the Draft EIR are required.

1-46 The commenter states that the Draft EIR would result in potentially significant GHG emissions exceeding the 2030 "Substantial Progress" threshold of 660 MT CO_2e per service population per year and AEP's "2030 Land Use Efficiency Threshold" of 2.6 MT CO_2e per service population per year.

Overall, the CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific quantitative thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009). State CEQA Guidelines Section 15064.4 states that a lead agency shall make a good-faith effort, based on available information, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. A lead agency has the discretion to determine, in the context of a particular project, whether to: (1) use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use, or (2) rely on a qualitative analysis or performance based standards. The City appropriately applied their discretion to apply a numeric GHG threshold recommended by the SCAQMD and is not required to apply alternative thresholds as recommended by the commenter. Regarding the commenters assertion that the Project would result in significant GHG emissions, as presented in Table 4.6-4 of Section 4.6, Greenhouse Gas of the Draft EIR, GHG emissions associated with development of the proposed Project would be below the SCAQMD GHG threshold of 3,000 MT CO_2e per year, with the Project resulting in approximately 2,921 MT CO_2e per year. Response to Comments 29 through 49 discusses the adequacy of the utilized CalEEMod input parameters.

1-47 In summary, the comment states that their modeling indicates that the Project's VMT would exceeds the CARB 2017 Scoping Plan projections for 2010, 2025, and 2030.

CARB released the updated Mobile Source Strategy that demonstrates how the State can simultaneously meet air quality standards, achieve 2030 and 2050 GHG emission reduction targets, decrease health risk, and reduce petroleum consumption from the transportation sector. CARB developed a scenario-based modeling system that was used to identify foreseeable emission reductions associated with existing mobile-source regulations, and to explore different combinations of further advancements in technologies, fuels, and transportation system efficiencies. This modeling usefully relates VMT and GHG metrics to each other, and can be a useful source of information for planners considering projects using one or the other of these metrics. Specifically, in support of the Mobile Source Strategy, CARB developed two scenarios using the model that are particularly relevant with respect to GHG emissions from the transportation sector. Notably, the baseline scenario represents the mobile-source GHG emissions reductions associated with existing mobile-source controls, regulations, foreseeable deployment of technology, and current projections of VMT included in the existing RTP/SCSs adopted by the State's 18 Metropolitan Planning Organizations (MPOs) pursuant to SB 375. Furthermore, the Cleaner Technologies and Fuels (CTF) scenario evaluates what level of additional deployment of cleaner vehicle technologies and fuels combined with slower growth in VMT would be necessary to achieve state air quality targets and climate goals of 40% reduction in GHG emissions from 1990 levels by 2030 and 80% by 2050. The existing total VMT per capita (2015-2018 average) was 24.6 and the existing light-duty VMT per capita (2015-2018 average) was 22.2.

As presented in Section 4.13, Transportation, the daily household VMT per capita for the Project -was determined by using the SCAG 2016 RTP/SCS travel demand model (SCAG 2016). The SCAG travel demand model identifies trip purposes as Home-Based Work and Home-Based Other, where trips have been produced by residential land uses and trips have been attracted by nonresidential land uses. The other trip type, Non-Home-Based, is produced and attracted by nonresidential land uses. The average trip length and vehicle trips for all Home-Based Work and Home-Based Other productions are used to calculate the daily household VMT per capita for residential uses.

Residential is already an existing land use in the Transportation Analysis Zones (TAZ) located in the City in which the Project is located, and the model therefore includes residential trips and average trip lengths. It is assumed that the Project's residential trips would have the same characteristics as the existing residential trips in the zone. The VMT per capita assumed for the Project site was therefore based on the vehicle trips and average trip lengths for the TAZ in which the Project is located from the SCAG model, which indicates a daily household VMT per capita of 10.9 for all home-based production trips within the TAZ, which is 23% below the City's VMT of 14.2. As such, the proposed Project's daily household VMT would not conflict with the transportation assumptions embedded in the 2017 Scoping Plan and with 2050 State climate goals. Therefore, no changes to the Draft EIR are required and impacts would remain less than significant.

1-48 In summary, the comment states that the Draft EIR does not consider performance-based goals under SCAG's RTP/SCS and SB 375 (e.g., per capita emission targets or VMT per capita benchmarks).

State CEQA Guidelines Section 15064.4 states that a lead agency should make a good-faith effort, based on available information, to describe, calculate or estimate the amount of GHG emissions resulting from a project. A lead agency has the discretion to determine, in the context of a particular project, whether to: (1) use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use; or (2) rely on a qualitative analysis or performance-based standards. As discussed in the Draft EIR, the City has not adopted quantitative project-level significance thresholds for assessing impacts related to GHG emissions applicable to the proposed Project, therefore, the SCAQMD threshold of 3,000 MT CO_2e was used to assess the Project's GHG emissions as discussed above.

As discussed in Section 4.13, Transportation of the Draft EIR, as the City has not yet adopted new transportation impact study guidelines including the VMT metric and significance criteria in compliance with Senate Bill (SB) 743 guidelines, the impact thresholds used for this Project are based on the Governor's Office of Planning and Research (OPR) guidelines. The proposed Project is estimated to generate 10.9 daily household VMT per capita, which is lower than 15% below the existing City daily household VMT per capita, and the Project was determined to have a less-than-significant VMT impact. Given the less than significant VMT impact, the GHG emissions from per capita VMT associated with the Project are assumed to be consistent with the VMT goals of the 2017 Scoping Plan and SCAG's 2020-2045 RTP/SCS. Furthermore, Impact GHG 4.6b evaluates the consistency of the Project with plans adopted for the purpose of reducing GHG emissions separate from the quantitative analysis. The Project is found to be consistent with the applicable regulatory plans and policies to reduce GHG emissions, including the emissions reduction measures discussed within 2017 Scoping Plan, Assembly Bill (AB) 32, EO S-3-05 and B-30-15, and SCAG's 2020-2045 RTP/SCS. The Specific Plan allows land use designations which creates a mix of land uses that are within walking distance of one another, and introduces retail uses along the Pacific Coast Highway (PCH) to provide streets that are attractive to pedestrians. The Project would promote healthy, walkable communities. Therefore, if the Project would not conflict with these plans, the City would be able to achieve its GHG reduction goals, and, therefore, these plans can be used at a Project level to show that a project would not have a significant cumulative effect on the environment as it relates to GHG impacts.

As the substantial evidence provided on pages 4.6-29 through 4.6-46 of Section 4.6, Greenhouse Gas Emissions, of the Draft EIR shows, the Project would be consistent with the applicable provisions of these plans. Therefore, the Draft EIR properly concludes, based on substantial evidence, that the Project's GHG impacts are less than significant and mitigation measures are not required.

1-49 In summary, the comment states that the Project would result in potentially significant health risk and GHG impacts that should be mitigated further, thus, the Project should incorporate the mitigation measures provided.

Please see Responses to Comment 1-42.

Additionally, it is important to note, CEQA does not require adoption of every imaginable feasible mitigation measure. CEQA's requirement applies only to feasible mitigation that will "substantially lessen" a project's significant effects. (Public Resources Code, § 21002.) As explained by one court: A lead agency's "duty to condition project approval on incorporation of feasible mitigation measures only exists when such measures would [avoid or] 'substantially lessen' a significant environmental effect." (San Franciscans for Reasonable Growth v. City and County of San Francisco (1989) 209 Cal.App.3d 1502, 1519.) "Thus, the agency need not, under CEQA, adopt every nickel and dime mitigation scheme brought to its attention or proposed in the project EIR." (Ibid.) Rather, an EIR should focus on mitigation measures that are feasible, practical, and effective. (Napa Citizens for Honest Government v. Napa County Board of Supervisors (2001) 91 Cal.App.4th 342, 365.). Furthermore, as presented in Section 4.2, Air Quality, and Section 4.6, Greenhouse Gas Emissions, the proposed Project would not result in significant impacts requiring the need for additional mitigation.

1-50 In summary, this comment provides a generic disclaimer about the comment letter. The comment does not raise any specific concerns related to the adequacy of the environmental analysis in the EIR; therefore, no further response to this comment is required.

Responses 1-51 through 1-52 are for "Attachments A through F of Exhibit D of A"

1-51 The commenter provided their own health risk, air quality, and GHG calculations to determine significance of the Project due to construction and operations. The comment does not raise any specific concerns related to the adequacy of the environmental analysis in the EIR; therefore, no further response to this comment is required.

1-52 In summary, this comment provides the curriculum vitae of Paul Rosenfeld, Ph.D., and Matt Hagemann, P.G., C.Hg. The comment does not express any environmental comments or concerns related to the environmental analysis in the Draft EIR. No further response is required.

Response 1-53 is for "Exhibit B, April 12, 2021 SWRCC Letter"

1-53 This comment represents a copy of an email from the commenter to the City dated April 12, 2021 with a reference to an attachment. The City assumes the attachment is in reference to the aforementioned comments. No further response is provided.

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Comment Letter 2

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Via Email

December 9, 2021

Chair Ryan Baldino and
Honorable Members of the Planning Commission
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Re: Comment on Final Environmental Impact Report, Pacific Coast Commons Specific Plan (SCH# 2020050508)

Dear Chair Baldino, Honorable Members of the Planning Commission, and Mr. Samaras:

I am writing on behalf of Supporters Alliance For Environmental Responsibility ("SAFER") regarding the Final Environmental Impact Report ("FEIR") prepared for the Project known as Pacific Coast Commons Specific Plan, aka SCH# 2020050508, including all actions related or referring to the proposed demolition of existing surface parking lots and construction of a new mixed use development located at 401-575 N. Pacific Coast Highway (PCH) and the parking lot on 600-block of PCH in the City of El Segundo ("Project"). 2-1

After reviewing the FEIR, we conclude that the FEIR fails as an informational document, fails to adequately analyze the Project's environmental impacts, and fails to impose all feasible mitigation measures to reduce the Project's impacts. SAFER requests that the Planning Division address these shortcomings in a revised environmental impact report ("REIR") and recirculate the REIR prior to considering approvals for the Project.

This comment has been prepared with the assistance of Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH (Exhibit A). Mr. Offermann's comments are incorporated herein by reference.

I. PROJECT DESCRIPTION

The Specific Plan area for this Project consists of eight parcels which total 6.385 gross acres. Current developments onsite include the Fairfield Inn and Suites Hotel and the 2-2

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Aloft Hotel, as well as surface parking lots. The Project would redevelop existing surface parking lots and a portion of the Fairfield Inn and Suites Hotel and would create five new land use districts. The site is bounded by Los Angeles International Airport to the north and residential communities to the east and south.

The Specific Plan allows for the following: (1) the continued operation of the Fairfield Inn and Suites Hotel and Aloft Hotel, which contain 596 rooms within 288,767 square feet of hotel development; (2) 327,021 square feet of residential development for 263 new housing units, including 257 multi-family apartments and six condominium/ townhomes; (3) 11,252 square feet of new commercial/retail uses; and (4) three new parking structures that would contain approximately 792 parking stalls. Construction activities would last approximately 34 months. 2-2 Cont.

II. LEGAL BACKGROUND

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). *See, e.g.* Pub. Res. Code § 21100. The EIR is the very heart of CEQA. *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal. App. 4th 98, 109.

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 Cal. Code Regs. ("CEQA Guidelines") § 15002(a)(1). "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'" *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564. The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 ("*Berkeley Jets*"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810. 2-3

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. CEQA Guidelines § 15002(a)(2) and (3); *see also, Berkeley Jets*, 91 Cal.App.4th at pp. 1344, 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564. The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or

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significantly reduced." CEQA Guidelines §15002(a)(2). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." Pub. Res. Code § 21081; 14 Cal.Code Regs. § 15092(b)(2)(A) & (B). The lead agency may deem a particular impact to be insignificant only if it produces rigorous analysis and concrete substantial evidence justifying the finding. *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 732.

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" *Berkeley Jets*, 91 Cal. App. 4th at p. 1355 (emphasis added) (quoting *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 391 409, fn. 12). As the court stated in *Berkeley Jets*:

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist.* (1997) 60 Cal. App. 4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal. App. 4th 931, 946.)

2-3 Cont.

More recently, the California Supreme Court has emphasized that:

> When reviewing whether a discussion is sufficient to satisfy CEQA, a court must be satisfied that the EIR (1) includes sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises [citation omitted], and (2) makes a reasonable effort to substantively connect a project's air quality impacts to likely health consequences.

Sierra Club v. Cty. of Fresno (2018) 6 Cal.5th 502, 510 (2018), citing *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 405. "Whether or not the alleged inadequacy is the complete omission of a required discussion or a patently inadequate one-paragraph discussion devoid of analysis, the reviewing court must decide whether the EIR serves its purpose as an informational document." *Sierra Club v. Cty. of Fresno*, 6 Cal.5th at 516. Although an agency has discretion to decide the manner of discussing potentially significant effects in an EIR, "a reviewing court must determine whether the discussion of a potentially significant effect is sufficient or insufficient, i.e., whether the EIR comports with its intended function of including 'detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.'" 6 Cal.5th at 516, citing *Bakersfield Citizens for*

Local Control v. City of Bakersfield (2004) 124 Cal.App.4th 1184, 1197. "The determination whether a discussion is sufficient is not solely a matter of discerning whether there is substantial evidence to support the agency's factual conclusions." 6 Cal.5th at 516. Whether a discussion of a potential impact is sufficient "presents a mixed question of law and fact. As such, it is generally subject to independent review. However, underlying factual determinations—including, for example, an agency's decision as to which methodologies to employ for analyzing an environmental effect—may warrant deference." *Sierra Club v. Cty. of Fresno*, 6 Cal.5th at 516. As the Court emphasized: 2-3 Cont.

> [W]hether a description of an environmental impact is insufficient because it lacks analysis or omits the magnitude of the impact is not a substantial evidence question. A conclusory discussion of an environmental impact that an EIR deems significant can be determined by a court to be inadequate as an informational document without reference to substantial evidence.

Sierra Club v. Cty. of Fresno, 6 Cal.5th at 514. We find that the FEIR prepared by the City here is inadequate for the reasons set forth below.

III. DISCUSSION

A. There is Substantial Evidence that the Project Will Have a Significant Health Risk Impact from its Indoor Air Quality Impacts.

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, has conducted a review of the proposed Project and relevant documents regarding the Project's indoor air emissions. Indoor Environmental Engineering Comments (Exhibit A). Mr. Offermann concludes that it is likely that the Project will expose residents and commercial employees of the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic. Mr. Offermann's expert comments and curriculum vitae are attached as Exhibit A. 2-4

Mr. Offermann explains that many composite wood products used in building materials and furnishings commonly found in offices, warehouses, residences, and hotels contain formaldehyde-based glues which off-gas formaldehyde over a very long time period. He states, "[t]he primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." Ex. A, p. 2-3.

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Formaldehyde is a known human carcinogen. Mr. Offermann states that future residents of the Project would be exposed to a 120 in one million risk, assuming all materials are compliant with the California Air Resources Board's formaldehyde airborne toxics control measure. *Id.* at 4. As for commercial employees, he estimates an exposure level of 17.7 in one million. *Id.* at 5. These potential exposure level exceeds the South Coast Air Quality Management District's ("SCAQMD") CEQA significance threshold for airborne cancer risk of 10 per million.

Mr. Offermann concludes that these significant environmental impacts should be analyzed in the EIR and mitigation measures should be imposed to reduce the risk of formaldehyde exposure. *Id.* Mr. Offermann identifies mitigation measures that are available to reduce these significant health risks, including the installation of air filters and a requirement that the applicant use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins in the buildings' interiors. *Id.* at 12.

Mr. Offermann also notes that because of the Project's close proximity to roads with moderate to high traffic and to air traffic from the nearby Los Angeles International Airport, the project is sound impacted. It will therefore require a "mechanical supply of outdoor air ventilation to allow for a habitable interior environment with closed windows and doors," so as to allow occupants the discretion to control exterior noise. *Id.* at 11.

2-4
Cont.

The City has a duty to investigate issues relating to a project's potential environmental impacts, especially those issues raised by an expert's comments. *See Cty. Sanitation Dist. No. 2 v. Cty. of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98 ("under CEQA, the lead agency bears a burden to investigate potential environmental impacts"). In addition to assessing the Project's potential health impacts to residents and employees, Mr. Offermann identifies the investigatory path that the City should be following in developing an EIR to more precisely evaluate the Project's future formaldehyde emissions and establishing mitigation measures that reduce the cancer risk below the SCAQMD level. Such an analysis would be similar in form to the air quality modeling and traffic modeling typically conducted as part of a CEQA review.

The failure to address the project's formaldehyde emissions is contrary to the California Supreme Court's decision in *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386 ("*CBIA*"). At issue in *CBIA* was whether the Air District could enact CEQA guidelines that advised lead agencies that they must analyze the impacts of adjacent environmental conditions on a project. The Supreme Court held that CEQA does not generally require lead agencies to consider the environment's effects on a project. *CBIA*, 62 Cal.4th at 800-801. However, to the extent a project may exacerbate existing adverse environmental conditions at or near a project site, those would still have to be considered pursuant to CEQA. *Id.* at 801 ("CEQA calls upon an agency to evaluate existing conditions in order to assess whether a project could exacerbate hazards that are already present"). In so holding, the Court expressly held that CEQA's statutory language required lead agencies to disclose and analyze "impacts on ***a project's users or residents*** that arise ***from the project's effects*** on the environment." *Id.* at 800 (emphasis added).

The carcinogenic formaldehyde emissions identified by Mr. Offermann are not an existing environmental condition. Those emissions to the air will be from the Project. Residents and commercial employees will be users of the Project. Rather than excusing the City from addressing the impacts of carcinogens emitted into the indoor air from the project, the Supreme Court in *CBIA* expressly finds that this type of effect by the project on the environment and a "project's users" must be addressed in the CEQA process.

The Supreme Court's reasoning is well-grounded in CEQA's statutory language. CEQA expressly includes a project's effects on human beings as an effect on the environment that must be addressed in an environmental review. "Section 21083(b)(3)'s express language, for example, requires a finding of a 'significant effect on the environment' (§ 21083(b)) whenever the 'environmental effects of a project will cause substantial adverse effects *on human beings*, either directly or indirectly.'" *CBIA*, 62 Cal.4th at 800 (emphasis in original). Likewise, "the Legislature has made clear—in declarations accompanying CEQA's enactment—that public health and safety are of great importance in the statutory scheme." *Id.*, citing e.g., §§ 21000, subds. (b), (c), (d), (g), 21001, subds. (b), (d). It goes without saying that the future residents and employees of the Project are human beings and the health and safety of those residents and workers is as important to CEQA's safeguards as that of other nearby residents currently living near the project site.

The City's EIR must disclose and mitigate the potential environmental impacts to future users of the building.

2-4 Cont.

B. There is Substantial Evidence that the Project will have Significant Adverse Air Quality, Health Risk, and Greenhouse Gas Impacts

1. The DEIR Relied on Unsubstantiated Input Parameters to Estimate Project Emissions and Thus the Project May Result in Significant Air Quality Impacts.

2-5

The Southwest Regional Council of Carpenters submitted a public comment on April 12, 2021 which was supported by the comments of expert environmental consulting firm SWAPE. (Exhibit B). Matt Hagemann, P.G., C.Hg., and Dr. Paul E. Rosenfeld, Ph.D., of the environmental consulting firm SWAPE reviewed the DEIR's analysis of the Project's impacts on air quality, health risk, and greenhouse gases. SAFER joins the Carpenters' comment and SWAPE's comment, the latter of which is incorporated by reference herein.

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SWAPE found that the DEIR incorrectly estimated the Project's construction and operational emissions and therefore cannot be relied upon to determine the significance of the Project's impacts on local and regional air quality. The DEIR relies on emissions calculated from the California Emissions Estimator Version CalEEMod.2016.3.2 ("CalEEMod"). DEIR, p. 4.2-1. This model, which is used to generate a project's construction and operational emissions, relies on recommended default values based on site specific information related to a number of factors. SWAPE comment, p. 1. CEQA requires any changes to the default values to be justified by substantial evidence. *Id.* at 1-2.

SWAPE reviewed the DEIR's CalEEMod output files and found that the values input into the model were inconsistent with information provided in the DEIR. *Id.* at 2. As a result, the DEIR's air quality analysis cannot be relied upon to determine the Project's emissions.

Specifically, SWAPE found that the following values used in the DEIR's air quality analysis were either inconsistent with information provided in the DEIR or otherwise unjustified:

1. Underestimated Land Use Sizes. SWAPE comment, p. 2.
2. Failure to Model All Required Demolition. *Id.* at p. 3-4.
3. Unsubstantiated Changes to Acres of Grading Values. *Id.* at 4-5.
4. Unsubstantiated Changes to Material Moisture Content Bulldozing Values. *Id.* at 5-6.
5. Unsubstantiated Changes to Material Silt Content Values. *Id.* at 6-7.
6. Unsubstantiated Changes to Hauling Trip Numbers. *Id.* at 7-8.
7. Unsubstantiated Changes to Architectural and Area Coating Areas. *Id.* at 8-9.
8. Underestimated Operational Vehicle Trip Rates. *Id.* at 10-11.
9. Unsubstantiated Changes to Energy Use Values. *Id.* at 11.
10. Unsubstantiated Changes to Wastewater Treatment System Percentages. *Id.* at 12.
11. Incorrect Application of Construction-Related Mitigation Measures. *Id.* at 13-14.
12. Incorrect Application of Mobile-Related Operational Mitigation Measures. *Id.* at 14-15.

As a result of these errors in the DEIR, the Project's construction and operational emissions were underestimated and cannot be relied upon to determine the significance of the Project's air quality impacts. 2-5 Cont.

2. There is Substantial Evidence that the Project May Have a Significant Health Impact as a Result of Diesel Particulate Emissions.

One of the primary emissions of concern regarding health effects for land development projects is diesel particulate matter ("DPM"), which can be released during Project construction and operation. DPM consists of fine particles with a diameter less than 2.5 micrometers including a subgroup of ultrafine particles (with a diameter less than 0.1 2-6

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micrometers). Diesel exhaust also contains a variety of harmful gases and cancer-causing substances. Exposure to DPM is a recognized health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. According to the California Air Resources Board ("CARB"), DPM exposure may lead to the following adverse health effects: aggravated asthma; chronic bronchitis; increased respiratory and cardiovascular hospitalizations; decreased lung function in children; lung cancer; and premature deaths for those with heart or lung disease.[1]

The DEIR concluded that the mitigated excess cancer risk posed by the Project to nearby sensitive receptors would not exceed the SCAQMD significance threshold of 10 in one million, and that the Project would result in a less-than-significant operational health risk impact. SWAPE comment, p. 15; DEIR, p. 4.2-38. SWAPE identifies four main reasons for why the DEIR's evaluation of health risk impacts and less-than-significant conclusion is incorrect.

First, the DEIR's construction HRA is incorrect due to its reliance on an exhaust PM_{10} estimate from a flawed air model. SWAPE comment, p. 16. The DEIR's HRA uses an underestimated DPM concentration, and therefore underestimates the Project's cancer risk and cannot be relied upon to determine impacts of the Project. *Id.*

Second, the DEIR did not evaluate the Project's toxic air contaminants (TACs) and associated health risk impacts. *Id.* The Traffic Impact Analysis indicates the generation of an estimated 2,517 average daily vehicle trips, but the DEIR fails to discuss potential TACs associated with Project operation or indicate the levels at which pollutants would trigger adverse health effects. *Id.* In failing to connect TAC emissions to potential health risks to nearby receptors, the Project fails to meet the CEQA requirement that projects correlate increases in project-generated emissions to adverse impacts on human health caused by those emissions. *See Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 510.

2-6 Cont.

Third, the California Department of Justice recommends the preparation of 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. OEHHA released its most recent guidance document in 2015 describing which types of projects warrant preparation of an HRA. *See* "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at*: http://oehha.ca.gov/air/hot_spots/hotspots2015.html. The OEHHA document recommends that if a project is expected to last over 6 months, the exposure should be evaluated throughout the project using a 30-year exposure duration to estimate individual cancer risks. SWAPE letter, p. 16. Based on its extensive experience, SWAPE reasonably assumes that the

[1] *See* CARB Resources - Overview: Diesel Exhaust & Health, available at https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health.).

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Project will last at least 30 years, and therefore recommends that health risk impacts from the project be evaluated. *Id.* A Revised EIR is therefore required to analyze these impacts.

Fourth, the FEIR fails to evaluate the "*cumulative* lifetime cancer risk to nearby, existing receptors as a result of Project *construction and operation together.*" SWAPE comment, p. 17 (emphasis in original). A Revised EIR should be prepared to quantify the cumulative excess cancer risk posed by the Project's construction and operation to nearby, existing receptors, and compare it to the SCAQMD threshold of 10 in one million. *Id.*

SWAPE prepared a screening-level HRA to evaluate potential impacts from Project construction using AERSCREEN, a screening-level air quality dispersion model. SWAPE comment, p. 17. SWAPE applied a sensitive receptor distance of 125 meters and analyzed impacts to individuals at different stages of life based on OEHHA and SCAQMD guidance utilizing age sensitivity factors. *Id.* at 17-19. SWAPE found that the excess cancer risks at a sensitive receptor located approximately 125 meters away over the course of Project construction and operation is **approximately 79 in one million**. *Id.* at 19. This risk appreciably exceeds SCAQMD's threshold of 10 in one million. 2-6 Cont.

SWAPE's analysis constitutes substantial evidence that the Project may have a significant health impact as a result of diesel particulate emissions. SWAPE recommends that an updated EIR be prepared which includes "a quantified air pollution model as well as an updated, quantified refined health risk assessment which adequately and accurately evaluates health risk impacts associated with both Project construction and operation." *Id.*

3. The DEIR Failed to Adequately Analyze the Project's Greenhouse Gas Impacts and Thus the Project May Result in Significant Greenhouse Gas Emissions.

The DEIR estimates that the Project would generate net annual GHG emissions of 2,920.96 metric tons of carbon dioxide equivalent per year ("MT CO2e/year"). The DEIR also relies on the Project's consistency with the City of El Segundo Climate Action Plan, SCAG's 2020-2045 *RTP/SCS*, CALGreen, CARB's *Scoping Plan,* and the General Plan's Air Quality Element, as well as EO S-3-05 and SB 32 to conclude the Project would have less-than-significant GHG impacts. SWAPE comment, p. 20; DEIR, p. 4.6-29 – 4.6-48. However, SWAPE states that the DEIR's conclusion about a less-than-significant greenhouse gas impact is incorrect for several reasons: 2-7

1. The DEIR's quantitative GHG analysis relies upon an incorrect and unsubstantiated air model;
2. The DEIR's quantitative GHG analysis relies upon an outdated threshold;
3. The DEIR's unsubstantiated air model indicates a potentially significant impact;
4. The DEIR fails to consider the performance-based standards under CARB's *Scoping Plan*; and

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5. The DEIR fails to consider the performance-based standards under SCAG's *RTP/SCS*.

SWAPE comment, p. 20-27. SWAPE's analysis demonstrates potentially significant health risk and GHG impacts from the project that necessitate mitigation, and it proposes several feasible mitigation measures from CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* to reduce these impacts. *Id.* at 27. In addition to implementing these measures, the Revised EIR should include an updated air quality, health risk, and GHG analysis. 2-7 Cont.

I. CONCLUSION

For the foregoing reasons, SAFER believes that the EIR is wholly inadequate. SAFER urges the Planning Commission to refrain from recommending certification of the FEIR or recommending approval of the Project in order to allow staff additional time to address the concerns raised herein. Thank you for considering our comments and please include this letter in the record of proceedings for this project. 2-8

Sincerely,

Rebecca Davis

EXHIBIT A

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From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: Pacific Coast Commons Project, El Segundo, CA
(IEE File Reference: P-4516)

Pages: 19

Indoor Air Quality Impacts 2-9

Indoor air quality (IAQ) directly impacts the comfort and health of building occupants, and the achievement of acceptable IAQ in newly constructed and renovated buildings is a well-recognized design objective. For example, IAQ is addressed by major high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014). Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek. Indoor air quality also is a serious concern for workers in hotels, offices and other business establishments.

The concentrations of many air pollutants often are elevated in homes and other buildings relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson, 2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and the reduction of indoor sources of the contaminants.

<u>**Indoor Formaldehyde Concentrations Impact**</u>. In the California New Home Study (CNHS) of 108 new homes in California (Offermann, 2009), 25 air contaminants were measured, and formaldehyde was identified as the indoor air contaminant with the highest cancer risk as determined by the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), No Significant Risk Levels (NSRL) for carcinogens. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000 (i.e., ten in one million cancer risk) and for formaldehyde is 40 μg/day. The NSRL concentration of formaldehyde that represents a daily dose of 40 μg is 2 $\mu g/m^3$, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 $\mu g/m^3$. The median indoor formaldehyde concentration was 36 $\mu g/m^3$, and ranged from 4.8 to 136 $\mu g/m^3$, which corresponds to a median exceedance of the 2 $\mu g/m^3$ NSRL concentration of 18 and a range of 2.3 to 68.

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 $\mu g/m^3$, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the South Coast Air Quality Management District (SCAQMD, 2015).

Besides being a human carcinogen, formaldehyde is also a potent eye and respiratory irritant. In the CNHS, many homes exceeded the non-cancer reference exposure levels (RELs) prescribed by California Office of Environmental Health Hazard Assessment (OEHHA, 2017b). The percentage of homes exceeding the RELs ranged from 98% for the Chronic REL of 9 $\mu g/m^3$ to 28% for the Acute REL of 55 $\mu g/m^3$.

The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and

2-9 Cont.

particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims.

In January 2009, the California Air Resources Board (CARB) adopted an airborne toxics control measure (ATCM) to reduce formaldehyde emissions from composite wood products, including hardwood plywood, particleboard, medium density fiberboard, and also furniture and other finished products made with these wood products (California Air Resources Board 2009). While this formaldehyde ATCM has resulted in reduced emissions from composite wood products sold in California, they do not preclude that homes built with composite wood products meeting the CARB ATCM will have indoor formaldehyde concentrations below cancer and non-cancer exposure guidelines.

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Singer et. al., 2019), and found that the median indoor formaldehyde in new homes built after 2009 with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of 22.4 $\mu g/m^3$ (18.2 ppb) as compared to a median of 36 $\mu g/m^3$ found in the 2007 CNHS. Unlike in the CNHS study where formaldehyde concentrations were measured with pumped DNPH samplers, the formaldehyde concentrations in the HENGH study were measured with passive samplers, which were estimated to under-measure the true indoor formaldehyde concentrations by approximately 7.5%. Applying this correction to the HENGH indoor formaldehyde concentrations results in a median indoor concentration of 24.1 $\mu g/m^3$, which is 33% lower than the 36 $\mu g/m^3$ found in the 2007 CNHS. 2-9 Cont.

Thus, while new homes built after the 2009 CARB formaldehyde ATCM have a 33% lower median indoor formaldehyde concentration and cancer risk, the median lifetime cancer risk is still 120 per million for homes built with CARB compliant composite wood products. This median lifetime cancer risk is more than 12 times the OEHHA 10 in a million cancer risk threshold (OEHHA, 2017a).

With respect to the Pacific Coast Commons Project, El Segundo, CA the buildings consist of residential and commercial spaces.

The residential occupants will potentially have continuous exposure (e.g. 24 hours per day, 52 weeks per year). These exposures are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in residential construction.

Because these residences will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor residential formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the residential occupants inhale 20 m^3 of air per day, the average 70-year lifetime formaldehyde daily dose is 482 μg/day for continuous exposure in the residences. This exposure represents a cancer risk of 120 per million, which is more than 12 times the CEQA cancer risk of 10 per million. For occupants that do not have continuous exposure, the cancer risk will be proportionally less but still substantially over the CEQA cancer risk of 10 per million (e.g. for 12/hour/day occupancy, more than 6 times the CEQA cancer risk of 10 per million).

2-9 Cont.

The employees of the commercial spaces are expected to experience significant indoor exposures (e.g., 40 hours per week, 50 weeks per year). These exposures for employees are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in offices, warehouses, residences and hotels.

Because the commercial spaces will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the employees of commercial spaces work 8 hours per day and inhale 20 m^3 of air per day, the formaldehyde dose per work-day at the offices is 161 µg/day.

Assuming that these employees work 5 days per week and 50 weeks per year for 45 years (start at age 20 and retire at age 65) the average 70-year lifetime formaldehyde daily dose is 70.9 µg/day.

This is 1.77 times the NSRL (OEHHA, 2017a) of 40 µg/day and represents a cancer risk of 17.7 per million, which exceeds the CEQA cancer risk of 10 per million. This impact should be analyzed in an environmental impact report ("EIR"), and the agency should impose all feasible mitigation measures to reduce this impact. Several feasible mitigation measures are discussed below and these and other measures should be analyzed in an EIR.

Appendix A, Indoor Formaldehyde Concentrations and the CARB Formaldehyde ATCM, provides analyses that show utilization of CARB Phase 2 Formaldehyde ATCM materials will not ensure acceptable cancer risks with respect to formaldehyde emissions from composite wood products. 2-9 Cont.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

The following describes a method that should be used, prior to construction in the environmental review under CEQA, for determining whether the indoor concentrations resulting from the formaldehyde emissions of specific building materials/furnishings selected exceed cancer and non-cancer guidelines. Such a design analyses can be used to identify those materials/furnishings prior to the completion of the City's CEQA review and project approval, that have formaldehyde emission rates that contribute to indoor concentrations that exceed cancer and non-cancer guidelines, so that alternative lower emitting materials/furnishings may be selected and/or higher minimum outdoor air ventilation rates can be increased to achieve acceptable indoor concentrations and incorporated as mitigation measures for this project.

Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment

This formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings, the area-specific formaldehyde emission rate data for building materials/furnishings, and the design minimum outdoor air ventilation rates. This assessment allows the applicant (and the City) to determine, before the conclusion of the environmental review process and the building materials/furnishings are specified, purchased, and installed, if the total chemical emissions will exceed cancer and non-cancer guidelines, and if so, allow for changes in the selection of specific material/furnishings and/or the design minimum outdoor air ventilations rates such that cancer and non-cancer guidelines are not exceeded.

2-9 Cont.

1.) Define Indoor Air Quality Zones. Divide the building into separate indoor air quality zones, (IAQ Zones). IAQ Zones are defined as areas of well-mixed air. Thus, each ventilation system with recirculating air is considered a single zone, and each room or group of rooms where air is not recirculated (e.g. 100% outdoor air) is considered a separate zone. For IAQ Zones with the same construction material/furnishings and design minimum outdoor air ventilation rates. (e.g. hotel rooms, apartments, condominiums, etc.) the formaldehyde emission rates need only be assessed for a single IAQ Zone of that type.

2.) Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., m^2 of material/m^2 floor area, units of furnishings/m^2 floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

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3.) Calculate the Formaldehyde Emission Rate. For each building material, calculate the formaldehyde emission rate (μg/h) from the product of the area-specific formaldehyde emission rate (μg/m^2-h) and the area (m^2) of material in the IAQ Zone, and from each furnishing (e.g. chairs, desks, etc.) from the unit-specific formaldehyde emission rate (μg/unit-h) and the number of units in the IAQ Zone.

NOTE: As a result of the high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014), most manufacturers of building materials furnishings sold in the United States conduct chemical emission rate tests using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), or other equivalent chemical emission rate testing methods. Most manufacturers of building furnishings sold in the United States conduct chemical emission rate tests using ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions (BIFMA, 2018), or other equivalent chemical emission rate testing methods.

CDPH, BIFMA, and other chemical emission rate testing programs, typically certify that a material or furnishing does not create indoor chemical concentrations in excess of the maximum concentrations permitted by their certification. For instance, the CDPH emission rate testing requires that the measured emission rates when input into an office, school, or residential model do not exceed one-half of the OEHHA Chronic Exposure Guidelines (OEHHA, 2017b) for the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017). These certifications themselves do not provide the actual area-specific formaldehyde emission rate (i.e., μg/m^2-h) of the product, but rather provide data that the formaldehyde emission rates do not exceed the maximum rate allowed for the certification. Thus, for example, the data for a certification of a specific type of flooring may be used to calculate that the area-specific emission rate of formaldehyde is less than 31 μg/m^2-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 μg/m^2-h. These area-specific emission rates determined from the product certifications of CDPH, BIFA, and other certification programs can be used as an initial estimate of the formaldehyde emission rate. 2-9 Cont.

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If the actual area-specific emission rates of a building material or furnishing is needed (i.e. the initial emission rates estimates from the product certifications are higher than desired), then that data can be acquired by requesting from the manufacturer the complete chemical emission rate test report. For instance if the complete CDPH emission test report is requested for a CDHP certified product, that report will provide the actual area-specific emission rates for not only the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017), but also all of the cancer and reproductive/developmental chemicals listed in the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), all of the toxic air contaminants (TACs) in the California Air Resources Board Toxic Air Contamination List (CARB, 2011), and the 10 chemicals with the greatest emission rates.

Alternatively, a sample of the building material or furnishing can be submitted to a chemical emission rate testing laboratory, such as Berkeley Analytical Laboratory (https://berkeleyanalytical.com), to measure the formaldehyde emission rate.

4.) Calculate the Total Formaldehyde Emission Rate. For each IAQ Zone, calculate the total formaldehyde emission rate (i.e. µg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3. 2-9 Cont.

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (µg/m^3) from Equation 1 by dividing the total formaldehyde emission rates (i.e. µg/h) as determined in Step 4, by the design minimum outdoor air ventilation rate (m^3/h) for the IAQ Zone.

$$C_{in} = \frac{E_{total}}{Q_{oa}} \quad \text{(Equation 1)}$$

where:

C_{in} = indoor formaldehyde concentration (µg/m^3)

E_{total} = total formaldehyde emission rate (µg/h) into the IAQ Zone.

Q_{oa} = design minimum outdoor air ventilation rate to the IAQ Zone (m^3/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section

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3.10.2 "Calculation of Estimated Building Concentrations" of the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017).

6.) Calculate the Indoor Exposure Cancer and Non-Cancer Health Risks. For each IAQ Zone, calculate the cancer and non-cancer health risks from the indoor formaldehyde concentrations determined in Step 5 and as described in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines; Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015).

7.) Mitigate Indoor Formaldehyde Exposures of exceeding the CEQA Cancer and/or Non-Cancer Health Risks. In each IAQ Zone, provide mitigation for any formaldehyde exposure risk as determined in Step 6, that exceeds the CEQA cancer risk of 10 per million or the CEQA non-cancer Hazard Quotient of 1.0.

Provide the source and/or ventilation mitigation required in all IAQ Zones to reduce the health risks of the chemical exposures below the CEQA cancer and non-cancer health risks. 2-9 Cont.

Source mitigation for formaldehyde may include:

1.) reducing the amount materials and/or furnishings that emit formaldehyde
2.) substituting a different material with a lower area-specific emission rate of formaldehyde

Ventilation mitigation for formaldehyde emitted from building materials and/or furnishings may include:

1.) increasing the design minimum outdoor air ventilation rate to the IAQ Zone.

NOTE: Mitigating the formaldehyde emissions through use of less material/furnishings, or use of lower emitting materials/furnishings, is the preferred mitigation option, as mitigation with increased outdoor air ventilation increases initial and operating costs associated with the heating/cooling systems.

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Further, we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), and use the procedure described earlier above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Impact. Another important finding of the CNHS, was that the outdoor air ventilation rates in the homes were very low. Outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants, as it is the primary removal mechanism of all indoor air generated contaminants. Lower outdoor air exchange rates cause indoor generated air contaminants to accumulate to higher indoor air concentrations. Many homeowners rarely open their windows or doors for ventilation as a result of their concerns for security/safety, noise, dust, and odor concerns (Price, 2007). In the CNHS field study, 32% of the homes did not use their windows during the 24-hour Test Day, and 15% of the homes did not use their windows during the entire preceding week. Most of the homes with no window usage were homes in the winter field session. Thus, a substantial percentage of homeowners never open their windows, especially in the winter season. The median 24-hour measurement was 0.26 air changes per hour (ach), with a range of 0.09 ach to 5.3 ach. A total of 67% of the homes had outdoor air exchange rates below the minimum California Building Code (2001) requirement of 0.35 ach. Thus, the relatively tight envelope construction, combined with the fact that many people never open their windows for ventilation, results in homes with low outdoor air exchange rates and higher indoor air contaminant concentrations.

2-9 Cont.

The Pacific Coast Commons Project is close to roads with moderate to high traffic (e.g., Pacific Coast Highway, E. Mariposa Avenue, E. Holly Avenue, Indiana Street, etc.) as well as air traffic from Los Angeles International Airport, and thus the Project site is a sound impacted site.

According to the Pacific Coast Commons Specific Plan - Draft Environmental Impact Report (Dudek, 2021), The future plus project traffic noise levels reported in Table 4.10-6 range from 55.4 dBA to 70.2 dBA CNEL.

As a result of the anticipated high outdoor noise levels, the current project will require a mechanical supply of outdoor air ventilation to allow for a habitable interior environment with closed windows and doors. Such a ventilation system would allow windows and doors to be kept closed at the occupant's discretion to control exterior noise within building interiors.

$PM_{2.5}$ Outdoor Concentrations Impact. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of $PM_{2.5}$. According to the Pacific Coast Commons Specific Plan - Draft Environmental Impact Report (Dudek, 2021), the Project is located in the South Coast Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

An air quality analyses should to be conducted to determine the concentrations of $PM_{2.5}$ in the outdoor and indoor air that people inhale each day. This air quality analyses needs to consider the cumulative impacts of the project related emissions, existing and projected future emissions from local $PM_{2.5}$ sources (e.g. stationary sources, motor vehicles, and airport traffic) upon the outdoor air concentrations at the Project site. If the outdoor concentrations are determined to exceed the California and National annual average $PM_{2.5}$ exceedence concentration of 12 $\mu g/m^3$, or the National 24-hour average exceedence concentration of 35 $\mu g/m^3$, then the buildings need to have a mechanical supply of outdoor air that has air filtration with sufficient removal efficiency, such that the indoor concentrations of outdoor $PM_{2.5}$ particles is less than the California and National $PM_{2.5}$ annual and 24-hour standards.

It is my experience that based on the projected high traffic noise levels, the annual average concentration of $PM_{2.5}$ will exceed the California and National $PM_{2.5}$ annual and 24-hour

2-9 Cont.

standards and warrant installation of high efficiency air filters (i.e. MERV 13 or higher) in all mechanically supplied outdoor air ventilation systems.

Indoor Air Quality Impact Mitigation Measures

The following are recommended mitigation measures to minimize the impacts upon indoor quality:

Indoor Formaldehyde Concentrations Mitigation. Use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins (CARB, 2009). CARB Phase 2 certified composite wood products, or ultra-low emitting formaldehyde (ULEF) resins, do not insure indoor formaldehyde concentrations that are below the CEQA cancer risk of 10 per million. Only composite wood products manufactured with CARB approved no-added formaldehyde (NAF) resins, such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

2-9 Cont.

Alternatively, conduct the previously described Pre-Construction Building Material/Furnishing Chemical Emissions Assessment, to determine that the combination of formaldehyde emissions from building materials and furnishings do not create indoor formaldehyde concentrations that exceed the CEQA cancer and non-cancer health risks.

It is important to note that we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

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<u>Outdoor Air Ventilation Mitigation</u>. Provide <u>each</u> habitable room with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft^2 of floor area. Following installation of the system conduct testing and balancing to insure that required amount of outdoor air is entering each habitable room and provide a written report documenting the outdoor airflow rates. Do not use exhaust only mechanical outdoor air systems, use only balanced outdoor air supply and exhaust systems or outdoor air supply only systems. Provide a manual for the occupants or maintenance personnel, that describes the purpose of the mechanical outdoor air system and the operation and maintenance requirements of the system.

<u>$PM_{2.5}$ Outdoor Air Concentration Mitigation</u>. Install air filtration with sufficient $PM_{2.5}$ removal efficiency (e.g. MERV 13 or higher) to filter the outdoor air entering the mechanical outdoor air supply systems, such that the indoor concentrations of outdoor $PM_{2.5}$ particles are less than the California and National $PM_{2.5}$ annual and 24-hour standards. Install the air filters in the system such that they are accessible for replacement by the occupants or maintenance personnel. Include in the mechanical outdoor air ventilation system manual instructions on how to replace the air filters and the estimated frequency of replacement. 2-9 Cont.

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APPENDIX A

INDOOR FORMALDEHYDE CONCENTRATIONS
AND THE
CARB FORMALDEHYDE ATCM

With respect to formaldehyde emissions from composite wood products, the CARB ATCM regulations of formaldehyde emissions from composite wood products, do not assure healthful indoor air quality. The following is the stated purpose of the CARB ATCM regulation - *The purpose of this airborne toxic control measure is to "reduce formaldehyde emissions from composite wood products, and finished goods that contain composite wood products, that are sold, offered for sale, supplied, used, or manufactured for sale in California"*. In other words, the CARB ATCM regulations do not "assure healthful indoor air quality", but rather "reduce formaldehyde emissions from composite wood products".

Just how much protection do the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products? Definitely some, but certainly the regulations do not *"assure healthful indoor air quality"* when CARB Phase 2 products are utilized. As shown in the Chan 2019 study of new California homes, the median indoor formaldehyde concentration was of 22.4 µg/m³ (18.2 ppb), which corresponds to a cancer risk of 112 per million for occupants with continuous exposure, which is more than 11 times the CEQA cancer risk of 10 per million. 2-9 Cont.

Another way of looking at how much protection the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products is to calculate the maximum number of square feet of composite wood product that can be in a residence without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy.

For this calculation I utilized the floor area (2,272 ft²), the ceiling height (8.5 ft), and the number of bedrooms (4) as defined in Appendix B (New Single-Family Residence Scenario) of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers, Version 1.1, 2017, California Department of Public Health,

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Richmond, CA, https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

For the outdoor air ventilation rate I used the 2019 Title 24 code required mechanical ventilation rate (ASHRAE 62.2) of 106 cfm (180 m^3/h) calculated for this model residence. For the composite wood formaldehyde emission rates I used the CARB ATCM Phase 2 rates.

The calculated maximum number of square feet of composite wood product that can be in a residence, without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 15 ft^2 (0.7% of the floor area), or
Particle Board – 30 ft^2 (1.3% of the floor area), or
Hardwood Plywood – 54 ft^2 (2.4% of the floor area), or
Thin MDF – 46 ft^2 (2.0 % of the floor area).

For offices and hotels the calculated maximum amount of composite wood product (% of floor area) that can be used without exceeding the CEQA cancer risk of 10 per million for occupants, assuming 8 hours/day occupancy, and the California Mechanical Code minimum outdoor air ventilation rates are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 3.6 % (offices) and 4.6% (hotel rooms), or
Particle Board – 7.2 % (offices) and 9.4% (hotel rooms), or
Hardwood Plywood – 13 % (offices) and 17% (hotel rooms), or
Thin MDF – 11 % (offices) and 14 % (hotel rooms)

Clearly the CARB ATCM does not regulate the formaldehyde emissions from composite wood products such that the potentially large areas of these products, such as for flooring, baseboards, interior doors, window and door trims, and kitchen and bathroom cabinetry, could be used without causing indoor formaldehyde concentrations that result in CEQA

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2-9 Cont.

cancer risks that substantially exceed 10 per million for occupants with continuous occupancy.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

If CARB Phase 2 compliant or ULEF composite wood products are utilized in construction, then the resulting indoor formaldehyde concentrations should be determined in the design phase using the specific amounts of each type of composite wood product, the specific formaldehyde emission rates, and the volume and outdoor air ventilation rates of the indoor spaces, and all feasible mitigation measures employed to reduce this impact (e.g. use less formaldehyde containing composite wood products and/or incorporate mechanical systems capable of higher outdoor air ventilation rates). See the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde. 2-9 Cont.

Alternatively, and perhaps a simpler approach, is to use only composite wood products (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins.

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http://www.iee-sf.com

Education

M.S. Mechanical Engineering (1985)
Stanford University, Stanford, CA.

Graduate Studies in Air Pollution Monitoring and Control (1980)
University of California, Berkeley, CA.

B.S. in Mechanical Engineering (1976)
Rensselaer Polytechnic Institute, Troy, N.Y.

Professional Experience

President: Indoor Environmental Engineering, San Francisco, CA. December, 1981 - present.

Direct team of environmental scientists, chemists, and mechanical engineers in conducting State and Federal research regarding indoor air quality instrumentation development, building air quality field studies, ventilation and air cleaning performance measurements, and chemical emission rate testing. 2-10

Provide design side input to architects regarding selection of building materials and ventilation system components to ensure a high quality indoor environment.

Direct Indoor Air Quality Consulting Team for the winning design proposal for the new State of Washington Ecology Department building.

Develop a full-scale ventilation test facility for measuring the performance of air diffusers: ASHRAE 129, Air Change Effectiveness, and ASHRAE 113, Air Diffusion Performance Index.

Develop a chemical emission rate testing laboratory for measuring the chemical emissions from building materials, furnishings, and equipment.

Principle Investigator of the California New Homes Study (2005-2007). Measured ventilation and indoor air quality in 108 new single family detached homes in northern and southern California.

Develop and teach IAQ professional development workshops to building owners, managers, hygienists, and engineers.

Air Pollution Engineer: Earth Metrics Inc., Burlingame, CA, October, 1985 to March, 1987.

Responsible for development of an air pollution laboratory including installation a forced choice olfactometer, tracer gas electron capture chromatograph, and associated calibration facilities. Field team leader for studies of fugitive odor emissions from sewage treatment plants, entrainment of fume hood exhausts into computer chip fabrication rooms, and indoor air quality investigations.

Staff Scientist: Building Ventilation and Indoor Air Quality Program, Energy and Environment Division, Lawrence Berkeley Laboratory, Berkeley, CA. January, 1980 to August, 1984.

Deputy project leader for the Control Techniques group; responsible for laboratory and field studies aimed at evaluating the performance of indoor air pollutant control strategies (i.e. ventilation, filtration, precipitation, absorption, adsorption, and source control).

Coordinated field and laboratory studies of air-to-air heat exchangers including evaluation of thermal performance, ventilation efficiency, cross-stream contaminant transfer, and the effects of freezing/defrosting.

Developed an *in situ* test protocol for evaluating the performance of air cleaning systems and introduced the concept of effective cleaning rate (ECR) also known as the Clean Air Delivery Rate (CADR).

Coordinated laboratory studies of portable and ducted air cleaning systems and their effect on indoor concentrations of respirable particles and radon progeny.

Co-designed an automated instrument system for measuring residential ventilation rates and radon concentrations.

Designed hardware and software for a multi-channel automated data acquisition system used to evaluate the performance of air-to-air heat transfer equipment.

Assistant Chief Engineer: Alta Bates Hospital, Berkeley, CA, October, 1979 to January, 1980.

Responsible for energy management projects involving installation of power factor correction capacitors on large inductive electrical devices and installation of steam meters on physical plant steam lines. Member of Local 39, International Union of Operating Engineers.

Manufacturing Engineer: American Precision Industries, Buffalo, NY, October, 1977 to October, 1979.

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Responsible for reorganizing the manufacturing procedures regarding production of shell and tube heat exchangers. Designed customized automatic assembly, welding, and testing equipment. Designed a large paint spray booth. Prepared economic studies justifying new equipment purchases. Safety Director.

Project Engineer: Arcata Graphics, Buffalo, N.Y. June, 1976 to October, 1977.

Responsible for the design and installation of a bulk ink storage and distribution system and high speed automatic counting and marking equipment. Also coordinated material handling studies which led to the purchase and installation of new equipment.

PROFESSIONAL ORGANIZATION MEMBERSHIP

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

- Chairman of SPC-145P, Standards Project Committee - Test Method for Assessing the Performance of Gas Phase Air Cleaning Equipment (1991-1992)
- Member SPC-129P, Standards Project Committee - Test Method for Ventilation Effectiveness (1986-97)
  - Member of Drafting Committee
- Member Environmental Health Committee (1992-1994, 1997-2001, 2007-2010)
  - Chairman of EHC Research Subcommittee
  - Member of Man Made Mineral Fiber Position Paper Subcommittee
  - Member of the IAQ Position Paper Committee
  - Member of the Legionella Position Paper Committee
  - Member of the Limiting Indoor Mold and Dampness in Buildings Position Paper Committee
- Member SSPC-62, Standing Standards Project Committee - Ventilation for Acceptable Indoor Air Quality (1992 to 2000)
  - Chairman of Source Control and Air Cleaning Subcommittee
- Chairman of TC-4.10, Indoor Environmental Modeling (1988-92)
  - Member of Research Subcommittee
- Chairman of TC-2.3, Gaseous Air Contaminants and Control Equipment (1989-92)
  - Member of Research Subcommittee

American Society for Testing and Materials (ASTM)

- D-22 Sampling and Analysis of Atmospheres
  - Member of Indoor Air Quality Subcommittee
- E-06 Performance of Building Constructions

American Board of Industrial Hygiene (ABIH)

American Conference of Governmental Industrial Hygienists (ACGIH)

- Bioaerosols Committee (2007-2013)

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American Industrial Hygiene Association (AIHA)

Cal-OSHA Indoor Air Quality Advisory Committee

International Society of Indoor Air Quality and Climate (ISIAQ)

- Co-Chairman of Task Force on HVAC Hygiene

U. S. Green Building Council (USGBC)
- Member of the IEQ Technical Advisory Group (2007-2009)
- Member of the IAQ Performance Testing Work Group (2010-2012)

Western Construction Consultants (WESTCON)

PROFESSIONAL CREDENTIALS

Licensed Professional Engineer - Mechanical Engineering

Certified Industrial Hygienist - American Board of Industrial Hygienists

SCIENTIFIC MEETINGS AND SYMPOSIA

Biological Contamination, Diagnosis, and Mitigation, Indoor Air'90, Toronto, Canada, August, 1990. 2-10 Cont.

Models for Predicting Air Quality, Indoor Air'90, Toronto, Canada, August, 1990.

Microbes in Building Materials and Systems, Indoor Air '93, Helsinki, Finland, July, 1993.

Microorganisms in Indoor Air Assessment and Evaluation of Health Effects and Probable Causes, Walnut Creek, CA, February 27, 1997.

Controlling Microbial Moisture Problems in Buildings, Walnut Creek, CA, February 27, 1997.

Scientific Advisory Committee, Roomvent 98, 6th International Conference on Air Distribution in Rooms, KTH, Stockholm, Sweden, June 14-17, 1998.

Moisture and Mould, Indoor Air '99, Edinburgh, Scotland, August, 1999.

Ventilation Modeling and Simulation, Indoor Air '99, Edinburgh, Scotland, August, 1999.

Microbial Growth in Materials, Healthy Buildings 2000, Espoo, Finland, August, 2000.

Co-Chair, Bioaerosols X- Exposures in Residences, Indoor Air 2002, Monterey, CA, July 2002.

Healthy Indoor Environments, Anaheim, CA, April 2003.

Chair, Environmental Tobacco Smoke in Multi-Family Homes, Indoor Air 2008, Copenhagen, Denmark, July 2008.

Co-Chair, ISIAQ Task Force Workshop; HVAC Hygiene, Indoor Air 2002, Monterey, CA, July 2002.

Chair, ETS in Multi-Family Housing: Exposures, Controls, and Legalities Forum, Healthy Buildings 2009, Syracuse, CA, September 14, 2009.

Chair, Energy Conservation and IAQ in Residences Workshop, Indoor Air 2011, Austin, TX, June 6, 2011.

Chair, Electronic Cigarettes: Chemical Emissions and Exposures Colloquium, Indoor Air 2016, Ghent, Belgium, July 4, 2016.

SPECIAL CONSULTATION

Provide consultation to the American Home Appliance Manufacturers on the development of a standard for testing portable air cleaners, AHAM Standard AC-1. 2-10 Cont.

Served as an expert witness and special consultant for the U.S. Federal Trade Commission regarding the performance claims found in advertisements of portable air cleaners and residential furnace filters.

Conducted a forensic investigation for a San Mateo, CA pro se defendant, regarding an alleged homicide where the victim was kidnapped in a steamer trunk. Determined the air exchange rate in the steamer trunk and how long the person could survive.

Conducted *in situ* measurement of human exposure to toluene fumes released during nailpolish application for a plaintiffs attorney pursuing a California Proposition 65 product labeling case. June, 1993.

Conducted a forensic *in situ* investigation for the Butte County, CA Sheriff's Department of the emissions of a portable heater used in the bedroom of two twin one year old girls who suffered simultaneous crib death.

Consult with OSHA on the 1995 proposed new regulation regarding indoor air quality and environmental tobacco smoke.

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Consult with EPA on the proposed Building Alliance program and with OSHA on the proposed new OSHA IAQ regulation.

Johnson Controls Audit/Certification Expert Review; Milwaukee, WI. May 28-29, 1997.

Winner of the nationally published 1999 Request for Proposals by the State of Washington to conduct a comprehensive indoor air quality investigation of the Washington State Department of Ecology building in Lacey, WA.

Selected by the State of California Attorney General's Office in August, 2000 to conduct a comprehensive indoor air quality investigation of the Tulare County Court House.

Lawrence Berkeley Laboratory IAQ Experts Workshop: "Cause and Prevention of Sick Building Problems in Offices: The Experience of Indoor Environmental Quality Investigators", Berkeley, California, May 26-27, 2004.

Provide consultation and chemical emission rate testing to the State of California Attorney General's Office in 2013-2015 regarding the chemical emissions from e-cigarettes.

PEER-REVIEWED PUBLICATIONS :

F.J.Offermann, C.D.Hollowell, and G.D.Roseme, "Low-Infiltration Housing in Rochester, New York: A Study of Air Exchange Rates and Indoor Air Quality," *Environment International*, *8*, pp. 435-445, 1982.

W.W.Nazaroff, F.J.Offermann, and A.W.Robb, "Automated System for Measuring Air Exchange Rate and Radon Concentration in Houses," *Health Physics*, *45*, pp. 525-537, 1983.

F.J.Offermann, W.J.Fisk, D.T.Grimsrud, B.Pedersen, and K.L.Revzan, "Ventilation Efficiencies of Wall- or Window-Mounted Residential Air-to-Air Heat Exchangers," *ASHRAE Annual Transactions*, *89-2B*, pp 507-527, 1983.

W.J.Fisk, K.M.Archer, R.E Chant, D. Hekmat, F.J.Offermann, and B.Pedersen, "Onset of Freezing in Residential Air-to-Air Heat Exchangers," *ASHRAE Annual Transactions*, *91-1B*, 1984.

W.J.Fisk, K.M.Archer, R.E Chant, D. Hekmat, F.J.Offermann, and B.Pedersen, "Performance of Residential Air-to-Air Heat Exchangers During Operation with Freezing and Periodic Defrosts," *ASHRAE Annual Transactions*, *91-1B*, 1984.

F.J.Offermann, R.G.Sextro, W.J.Fisk, D.T.Grimsrud, W.W.Nazaroff, A.V.Nero, and K.L.Revzan, "Control of Respirable Particles with Portable Air Cleaners," *Atmospheric Environment*, Vol. 19, pp.1761-1771, 1985.

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R.G.Sextro, F.J.Offermann, W.W.Nazaroff, A.V.Nero, K.L.Revzan, and J.Yater, "Evaluation of Indoor Control Devices and Their Effects on Radon Progeny Concentrations," *Atmospheric Environment, 12*, pp. 429-438, 1986.

W.J. Fisk, R.K.Spencer, F.J.Offermann, R.K.Spencer, B.Pedersen, R.Sextro, "Indoor Air Quality Control Techniques," *Noyes Data Corporation*, Park Ridge, New Jersey, (1987).

F.J.Offermann, "Ventilation Effectiveness and ADPI Measurements of a Forced Air Heating System," *ASHRAE Transactions* , Volume 94, Part 1, pp 694-704, 1988.

F.J.Offermann and D. Int-Hout "Ventilation Effectiveness Measurements of Three Supply/Return Air Configurations," *Environment International* , Volume 15, pp 585-592 1989.

F.J. Offermann, S.A. Loiselle, M.C. Quinlan, and M.S. Rogers, "A Study of Diesel Fume Entrainment in an Office Building," *IAQ '89*, The Human Equation: Health and Comfort, pp 179-183, ASHRAE, Atlanta, GA, 1989.

R.G.Sextro and F.J.Offermann, "Reduction of Residential Indoor Particle and Radon Progeny Concentrations with Ducted Air Cleaning Systems," submitted to *Indoor Air*, 1990.

S.A.Loiselle, A.T.Hodgson, and F.J.Offermann, "Development of An Indoor Air Sampler for Polycyclic Aromatic Compounds", *Indoor Air* , Vol 2, pp 191-210, 1991.

F.J.Offermann, S.A.Loiselle, A.T.Hodgson, L.A. Gundel, and J.M. Daisey, "A Pilot Study to Measure Indoor Concentrations and Emission Rates of Polycyclic Aromatic Compounds", *Indoor Air* , Vol 4, pp 497-512, 1991.

F.J. Offermann, S. A. Loiselle, R.G. Sextro, "Performance Comparisons of Six Different Air Cleaners Installed in a Residential Forced Air Ventilation System," *IAQ'91*, Healthy Buildings, pp 342-350, ASHRAE, Atlanta, GA (1991).

F.J. Offermann, J. Daisey, A. Hodgson, L. Gundell, and S. Loiselle, "Indoor Concentrations and Emission Rates of Polycyclic Aromatic Compounds", *Indoor Air*, Vol 4, pp 497-512 (1992).

F.J. Offermann, S. A. Loiselle, R.G. Sextro, "Performance of Air Cleaners Installed in a Residential Forced Air System," *ASHRAE Journal*, pp 51-57, July, 1992.

F.J. Offermann and S. A. Loiselle, "Performance of an Air-Cleaning System in an Archival Book Storage Facility," *IAQ'92*, ASHRAE, Atlanta, GA, 1992.

S.B. Hayward, K.S. Liu, L.E. Alevantis, K. Shah, S. Loiselle, F.J. Offermann, Y.L. Chang, L. Webber, "Effectiveness of Ventilation and Other Controls in Reducing Exposure to ETS in Office Buildings," Indoor Air '93, Helsinki, Finland, July 4-8, 1993.

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F.J. Offermann, S. A. Loiselle, G. Ander, H. Lau, "Indoor Contaminant Emission Rates Before and After a Building Bake-out," IAQ'93, Operating and Maintaining Buildings for Health, Comfort, and Productivity, pp 157-163, ASHRAE, Atlanta, GA, 1993.

L.E. Alevantis, Hayward, S.B., Shah, S.B., Loiselle, S., and Offermann, F.J. "Tracer Gas Techniques for Determination of the Effectiveness of Pollutant Removal From Local Sources," IAQ '93, Operating and Maintaining Buildings for Health, Comfort, and Productivity, pp 119-129, ASHRAE, Atlanta, GA, 1993.

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L.E. Alevantis, Offermann, F.J., Loiselle, S., and Macher, J.M., "Pressure and Ventilation Requirements of Hospital Isolation Rooms for Tuberculosis (TB) Patients: Existing Guidelines in the United States and a Method for Measuring Room Leakage", Ventilation and Indoor air quality in Hospitals, M. Maroni, editor, Kluwer Academic publishers, Netherlands, 1996.

F.J. Offermann, M. A. Waz, A.T. Hodgson, and H.M. Ammann, "Chemical Emissions from a Hospital Operating Room Air Filter," IAQ'96, Paths to Better Building Environments, pp 95-99, ASHRAE, Atlanta, GA, 1996.

F.J. Offermann, "Professional Malpractice and the Sick Building Investigator," IAQ'96, Paths to Better Building Environments, pp 132-136, ASHRAE, Atlanta, GA, 1996. 2-10 Cont.

F.J. Offermann, "Standard Method of Measuring Air Change Effectiveness," Indoor Air, Vol 1, pp.206-211, 1999.

F. J. Offermann, A. T. Hodgson, and J. P. Robertson, "Contaminant Emission Rates from PVC Backed Carpet Tiles on Damp Concrete", Healthy Buildings 2000, Espoo, Finland, August 2000.

K.S. Liu, L.E. Alevantis, and F.J. Offermann, "A Survey of Environmental Tobacco Smoke Controls in California Office Buildings", Indoor Air, Vol 11, pp. 26-34, 2001.

F.J. Offermann, R. Colfer, P. Radzinski, and J. Robertson, "Exposure to Environmental Tobacco Smoke in an Automobile", Indoor Air 2002, Monterey, California, July 2002.

F. J. Offermann, J.P. Robertson, and T. Webster, "The Impact of Tracer Gas Mixing on Airflow Rate Measurements in Large Commercial Fan Systems", Indoor Air 2002, Monterey, California, July 2002.

M. J. Mendell, T. Brennan, L. Hathon, J.D. Odom, F.J.Offermann, B.H. Turk, K.M. Wallingford, R.C. Diamond, W.J. Fisk, "Causes and prevention of Symptom Complaints in Office Buildings: Distilling the Experience of Indoor Environmental Investigators", submitted to Indoor Air 2005, Beijing, China, September 4-9, 2005.

F.J. Offermann, "Ventilation and IAQ in New Homes With and Without Mechanical Outdoor Air Systems", Healthy Buildings 2009, Syracuse, CA, September 14, 2009.

F.J. Offermann, "ASHRAE 62.2 Intermittent Residential Ventilation: What's It Good For, Intermittently Poor IAQ", IAQVEC 2010, Syracuse, CA, April 21, 2010.

F.J. Offermann and A.T. Hodgson, "Emission Rates of Volatile Organic Compounds in New Homes", Indoor Air 2011, Austin, TX, June, 2011.

P. Jenkins, R. Johnson, T. Phillips, and F. Offermann, "Chemical Concentrations in New California Homes and Garages", Indoor Air 2011, Austin, TX, June, 2011.

W. J. Mills, B. J. Grigg, F. J. Offermann, B. E. Gustin, and N. E. Spingarn, "Toluene and Methyl Ethyl Ketone Exposure from a Commercially Available Contact Adhesive", Journal of Occupational and Environmental Hygiene, 9:D95-D102 May, 2012.

F. J. Offermann, R. Maddalena, J. C. Offermann, B. C. Singer, and H, Wilhelm, "The Impact of Ventilation on the Emission Rates of Volatile Organic Compounds in Residences", HB 2012, Brisbane, AU, July, 2012.

F. J. Offermann, A. T. Hodgson, P. L. Jenkins, R. D. Johnson, and T. J. Phillips, "Attached Garages as a Source of Volatile Organic Compounds in New Homes", HB 2012, Brisbane, CA, July, 2012. 2-10 Cont.

R. Maddalena, N. Li, F. Offermann, and B. Singer, "Maximizing Information from Residential Measurements of Volatile Organic Compounds", HB 2012, Brisbane, AU, July, 2012.

W. Chen, A. Persily, A. Hodgson, F. Offermann, D. Poppendieck, and K. Kumagai, "Area-Specific Airflow Rates for Evaluating the Impacts of VOC emissions in U.S. Single-Family Homes", Building and Environment, Vol. 71, 204-211, February, 2014.

F. J. Offermann, A. Eagan A. C. Offermann, and L. J. Radonovich, "Infectious Disease Aerosol Exposures With and Without Surge Control Ventilation System Modifications", Indoor Air 2014, Hong Kong, July, 2014.

F. J. Offermann, "Chemical Emissions from E-Cigarettes: Direct and Indirect Passive Exposures", Building and Environment, Vol. 93, Part 1, 101-105, November, 2015.

F. J. Offermann, "Formaldehyde Emission Rates From Lumber Liquidators Laminate Flooring Manufactured in China", Indoor Air 2016, Belgium, Ghent, July, 2016.

F. J. Offermann, "Formaldehyde and Acetaldehyde Emission Rates for E-Cigarettes", Indoor Air 2016, Belgium, Ghent, July, 2016.

OTHER REPORTS:

W.J.Fisk, P.G.Cleary, and F.J.Offermann, "Energy Saving Ventilation with Residential Heat Exchangers," a Lawrence Berkeley Laboratory brochure distributed by the Bonneville Power Administration, 1981.

F.J.Offermann, J.R.Girman, and C.D.Hollowell, "Midway House Tightening Project: A Study of Indoor Air Quality," Lawrence Berkeley Laboratory, Berkeley, CA, Report LBL-12777, 1981.

F.J.Offermann, J.B.Dickinson, W.J.Fisk, D.T.Grimsrud, C.D.Hollowell, D.L.Krinkle, and G.D.Roseme, "Residential Air-Leakage and Indoor Air Quality in Rochester, New York," Lawrence Berkeley Laboratory, Berkeley, CA, Report LBL-13100, 1982.

F.J.Offermann, W.J.Fisk, B.Pedersen, and K.L.Revzan, Residential Air-to-Air Heat Exchangers: A Study of the Ventilation Efficiencies of Wall- or Window- Mounted Units," Lawrence Berkeley Laboratory, Berkeley, CA, Report LBL-14358, 1982.

F.J.Offermann, W.J.Fisk, W.W.Nazaroff, and R.G.Sextro, "A Review of Portable Air Cleaners for Controlling Indoor Concentrations of Particulates and Radon Progeny," An interim report for the Bonneville Power Administration, 1983.

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"Ventilation Measurement Techniques," Presented at the Workshop on Sampling and Analytical Techniques, Georgia Institute of Technology, Atlanta, Georgia, September 26, 1986 and September 25, 1987.

"Buildings That Make You Sick: Indoor Air Pollution", Presented to the Sacramento Association of Professional Energy Managers, Sacramento, CA, November 18, 1986.

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"Tracer Gas Techniques for Studying Ventilation," Presented at the Indoor Air Quality Symposium, Georgia Tech Research Institute, Atlanta, GA, September 22-24, 1987. 2-10 Cont.

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"Ventilation Effectiveness and ADPI Measurements of a Forced Air Heating System," Presented at the American Society of Heating, Refrigeration, and Air Conditioning Engineers Winter Meeting, Dallas, Texas, January 31, 1988.

"Indoor Air Quality, Ventilation, and Energy in Commercial Buildings", Presented at the Building Owners &Managers Association of Sacramento, Sacramento, CA, July 21, 1988.

"Controlling Indoor Air Quality: The New ASHRAE Ventilation Standards and How to Evaluate Indoor Air Quality", Presented at a conference "Improving Energy Efficiency and Indoor Air Quality in Commercial Buildings," National Energy Management Institute, Reno, Nevada, November 4, 1988.

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"Indoor Air Quality in Commercial Office Buildings," Presented at the Renewable Energy Technologies Symposium and International Exposition, Santa Clara, CA June 20, 1989.

"Building Ventilation and Indoor Air Quality", Presented to the San Joaquin Chapter of the American Society of Heating, Refrigeration, and Air Conditioning Engineers, September 7, 1989.

"How to Meet New Ventilation Standards: Indoor Air Quality and Energy Efficiency," a workshop presented by the Association of Energy Engineers; Chicago, IL, March 20-21, 1989; Atlanta, GA, May 25-26, 1989; San Francisco, CA, October 19-20, 1989; Orlando, FL, December 11-12, 1989; Houston, TX, January 29-30, 1990; Washington D.C., February 26-27, 1990; Anchorage, Alaska, March 23, 1990; Las Vegas, NV, April 23-24, 1990; Atlantic City, NJ, September 27-28, 1991; Anaheim, CA, November 19-20, 1991; Orlando, FL, February 28 - March 1, 1991; Washington, DC, March 20-21, 1991; Chicago, IL, May 16-17, 1991; Lake Tahoe, NV, August 15-16, 1991; Atlantic City, NJ, November 18-19, 1991; San Jose, CA, March 23-24, 1992.

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"Ventilation Standards for Office Buildings", Presented to the South Bay Property Managers Association, Santa Clara, May 9, 1990. 2-10 Cont.

"Indoor Air Quality", Presented at the Responsive Energy Technologies Symposium & International Exposition (RETSIE), Santa Clara, CA, June 20, 1990.

"Indoor Air Quality - Management and Control Strategies", Presented at the Association of Energy Engineers, San Francisco Bay Area Chapter Meeting, Berkeley, CA, September 25, 1990.

"Diagnosing Indoor Air Contaminant and Odor Problems", Presented at the ASHRAE Annual Meeting, New York City, NY, January 23, 1991.

"Diagnosing and Treating the Sick Building Syndrome", Presented at the Energy 2001, Oklahoma, OK, March 19, 1991.

"Diagnosing and Mitigating Indoor Air Quality Problems" a workshop presented by the Association of Energy Engineers, Chicago, IL, October 29-30, 1990; New York, NY, January 24-25, 1991; Anaheim, April 25-26, 1991; Boston, MA, June 10-11, 1991; Atlanta, GA, October 24-25, 1991; Chicago, IL, October 3-4, 1991; Las Vegas, NV, December 16-17, 1991; Anaheim, CA, January 30-31, 1992; Atlanta, GA, March 5-6, 1992; Washington, DC, May 7-8, 1992; Chicago, IL, August 19-20, 1992; Las Vegas, NV, October 1-2, 1992; New York City, NY, October 26-27, 1992, Las Vegas, NV, March 18-19, 1993; Lake Tahoe, CA, July 14-15, 1994; Las Vegas, NV, April 3-4, 1995; Lake Tahoe, CA, July 11-12, 1996; Miami, Fl, December 9-10, 1996.

"Sick Building Syndrome and the Ventilation Engineer", Presented to the San Jose Engineers Club, May, 21, 1991.

"Duct Cleaning: Who Needs It ? How Is It Done ? What Are The Costs ?" What Are the Risks ?, Moderator of Forum at the ASHRAE Annual Meeting, Indianapolis ID, June 23, 1991.

"Operating Healthy Buildings", Association of Plant Engineers, Oakland, CA, November 14, 1991.

"Duct Cleaning Perspectives", Moderator of Seminar at the ASHRAE Semi-Annual Meeting, Indianapolis, IN, June 24, 1991.

"Duct Cleaning: The Role of the Environmental Hygienist," ASHRAE Annual Meeting, Anaheim, CA, January 29, 1992.

"Emerging IAQ Issues", Fifth National Conference on Indoor Air Pollution, University of Tulsa, Tulsa, OK, April 13-14, 1992.

"International Symposium on Room Air Convection and Ventilation Effectiveness", Member of Scientific Advisory Board, University of Tokyo, July 22-24, 1992.

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"Guidelines for Contaminant Control During Construction and Renovation Projects in Office Buildings," Seminar paper at the ASHRAE Annual Meeting, Chicago, IL, January 26, 1993.

"Outside Air Economizers: IAQ Friend or Foe", Moderator of Forum at the ASHRAE Annual Meeting, Chicago, IL, January 26, 1993.

"Orientation to Indoor Air Quality," an EPA two and one half day comprehensive indoor air quality introductory workshop for public officials and building property managers; Sacramento, September 28-30, 1992; San Francisco, February 23-24, 1993; Los Angeles, March 16-18, 1993; Burbank, June 23, 1993; Hawaii, August 24-25, 1993; Las Vegas, August 30, 1993; San Diego, September 13-14, 1993; Phoenix, October 18-19, 1993; Reno, November 14-16, 1995; Fullerton, December 3-4, 1996; Fresno, May 13-14, 1997.

"Building Air Quality: A Guide for Building Owners and Facility Managers," an EPA one half day indoor air quality introductory workshop for building owners and facility managers. Presented throughout Region IX 1993-1995.

"Techniques for Airborne Disease Control", EPRI Healthcare Initiative Symposium; San Francisco, CA; June 7, 1994.

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"Diagnosing and Mitigating Indoor Air Quality Problems", CIHC Conference; San Francisco, September 29, 1994.

"Indoor Air Quality: Tools for Schools," an EPA one day air quality management workshop for school officials, teachers, and maintenance personnel; San Francisco, October 18-20, 1994; Cerritos, December 5, 1996; Fresno, February 26, 1997; San Jose, March 27, 1997; Riverside, March 5, 1997; San Diego, March 6, 1997; Fullerton, November 13, 1997; Santa Rosa, February 1998; Cerritos, February 26, 1998; Santa Rosa, March 2, 1998.

ASHRAE 62 Standard "Ventilation for Acceptable IAQ", ASCR Convention; San Francisco, CA, March 16, 1995.

"New Developments in Indoor Air Quality: Protocol for Diagnosing IAQ Problems", AIHA-NC; March 25, 1995.

"Experimental Validation of ASHRAE SPC 129, Standard Method of Measuring Air Change Effectiveness", 16th AIVC Conference, Palm Springs, USA, September 19-22, 1995.

"Diagnostic Protocols for Building IAQ Assessment", American Society of Safety Engineers Seminar: 'Indoor Air Quality – The Next Door'; San Jose Chapter, September 27, 1995; Oakland Chapter, 9, 1997.

"Diagnostic Protocols for Building IAQ Assessment", Local 39; Oakland, CA, October 3, 1995. 2-10 Cont.

"Diagnostic Protocols for Solving IAQ Problems", CSU-PPD Conference; October 24, 1995.

"Demonstrating Compliance with ASHRAE 62-1989 Ventilation Requirements", AIHA; October 25, 1995.

"IAQ Diagnostics: Hands on Assessment of Building Ventilation and Pollutant Transport", EPA Region IX; Phoenix, AZ, March 12, 1996; San Francisco, CA, April 9, 1996; Burbank, CA, April 12, 1996.

"Experimental Validation of ASHRAE 129P: Standard Method of Measuring Air Change Effectiveness", Room Vent '96 / International Symposium on Room Air Convection and Ventilation Effectiveness"; Yokohama, Japan, July 16-19, 1996.

"IAQ Diagnostic Methodologies and RFP Development", CCEHSA 1996 Annual Conference, Humboldt State University, Arcata, CA, August 2, 1996.

"The Practical Side of Indoor Air Quality Assessments", California Industrial Hygiene Conference '96, San Diego, CA, September 2, 1996

"ASHRAE Standard 62: Improving Indoor Environments", Pacific Gas and Electric Energy Center, San Francisco, CA, October 29, 1996.

"Operating and Maintaining Healthy Buildings", April 3-4, 1996, San Jose, CA; July 30, 1997, Monterey, CA.

"IAQ Primer", Local 39, April 16, 1997; Amdahl Corporation, June 9, 1997; State Compensation Insurance Fund's Safety & Health Services Department, November 21, 1996.

"Tracer Gas Techniques for Measuring Building Air Flow Rates", ASHRAE, Philadelphia, PA, January 26, 1997.

"How to Diagnose and Mitigate Indoor Air Quality Problems"; Women in Waste; March 19, 1997.

"Environmental Engineer: What Is It?", Monte Vista High School Career Day; April 10, 1997.

"Indoor Environment Controls: What's Hot and What's Not", Shaklee Corporation; San Francisco, CA, July 15, 1997.

"Measurement of Ventilation System Performance Parameters in the US EPA BASE Study", Healthy Buildings/IAQ'97, Washington, DC, September 29, 1997.

"Operations and Maintenance for Healthy and Comfortable Indoor Environments", PASMA; October 7, 1997.

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"Designing for Healthy and Comfortable Indoor Environments", Construction Specification Institute, Santa Rosa, CA, November 6, 1997.

"Ventilation System Design for Good IAQ", University of Tulsa 10th Annual Conference, San Francisco, CA, February 25, 1998.

"The Building Shell", Tools For Building Green Conference and Trade Show, Alameda County Waste Management Authority and Recycling Board, Oakland, CA, February 28, 1998.

"Identifying Fungal Contamination Problems In Buildings", The City of Oakland Municipal Employees, Oakland, CA, March 26, 1998.

"Managing Indoor Air Quality in Schools: Staying Out of Trouble", CASBO, Sacramento, CA, April 20, 1998.

"Indoor Air Quality", CSOOC Spring Conference, Visalia, CA, April 30, 1998.

"Particulate and Gas Phase Air Filtration", ACGIH/OSHA, Ft. Mitchell, KY, June 1998.

"Building Air Quality Facts and Myths", The City of Oakland / Alameda County Safety Seminar, Oakland, CA, June 12, 1998.

"Building Engineering and Moisture", Building Contamination Workshop, University of California Berkeley, Continuing Education in Engineering and Environmental Management, San Francisco, CA, October 21-22, 1999.

"Identifying and Mitigating Mold Contamination in Buildings", Western Construction Consultants Association, Oakland, CA, March 15, 2000; AIG Construction Defect Seminar, Walnut Creek, CA, May 2, 2001; City of Oakland Public Works Agency, Oakland, CA, July 24, 2001; Executive Council of Homeowners, Alamo, CA, August 3, 2001.

"Using the EPA BASE Study for IAQ Investigation / Communication", Joint Professional Symposium 2000, American Industrial Hygiene Association, Orange County & Southern California Sections, Long Beach, October 19, 2000.

"Ventilation," Indoor Air Quality: Risk Reduction in the 21st Century Symposium, sponsored by the California Environmental Protection Agency/Air Resources Board, Sacramento, CA, May 3-4, 2000.

"Workshop 18: Criteria for Cleaning of Air Handling Systems", Healthy Buildings 2000, Espoo, Finland, August 2000.

"Closing Session Summary: 'Building Investigations' and 'Building Design & Construction', Healthy Buildings 2000, Espoo, Finland, August 2000.

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"Managing Building Air Quality and Energy Efficiency, Meeting the Standard of Care", BOMA, MidAtlantic Environmental Hygiene Resource Center, Seattle, WA, May 23rd, 2000; San Antonio, TX, September 26-27, 2000.

"Diagnostics & Mitigation in Sick Buildings: When Good Buildings Go Bad," University of California Berkeley, September 18, 2001.

"Mold Contamination: Recognition and What To Do and Not Do", Redwood Empire Remodelers Association; Santa Rosa, CA, April 16, 2002.

"Investigative Tools of the IAQ Trade", Healthy Indoor Environments 2002; Austin, TX; April 22, 2002.

"Finding Hidden Mold: Case Studies in IAQ Investigations", AIHA Northern California Professionals Symposium; Oakland, CA, May 8, 2002.

"Assessing and Mitigating Fungal Contamination in Buildings", Cal/OSHA Training; Oakland, CA, February 14, 2003 and West Covina, CA, February 20-21, 2003.

"Use of External Containments During Fungal Mitigation", Invited Speaker, ACGIH Mold Remediation Symposium, Orlando, FL, November 3-5, 2003.

Building Operator Certification (BOC), 106-IAQ Training Workshops, Northwest Energy Efficiency Council; Stockton, CA, December 3, 2003; San Francisco, CA, December 9, 2003; Irvine, CA, January 13, 2004; San Diego, January 14, 2004; Irwindale, CA, January 27, 2004; Downey, CA, January 28, 2004; Santa Monica, CA, March 16, 2004; Ontario, CA, March 17, 2004; Ontario, CA, November 9, 2004, San Diego, CA, November 10, 2004; San Francisco, CA, November 17, 2004; San Jose, CA, November 18, 2004; Sacramento, CA, March 15, 2005.

"Mold Remediation: The National QUEST for Uniformity Symposium", Invited Speaker, Orlando, Florida, November 3-5, 2003.

"Mold and Moisture Control", Indoor Air Quality workshop for The Collaborative for High Performance Schools (CHPS), San Francisco, December 11, 2003.

"Advanced Perspectives In Mold Prevention & Control Symposium", Invited Speaker, Las Vegas, Nevada, November 7-9, 2004.

"Building Sciences: Understanding and Controlling Moisture in Buildings", American Industrial Hygiene Association, San Francisco, CA, February 14-16, 2005.

"Indoor Air Quality Diagnostics and Healthy Building Design", University of California Berkeley, Berkeley, CA, March 2, 2005.

2-10 Cont.

"Improving IAQ = Reduced Tenant Complaints", Northern California Facilities Exposition, Santa Clara, CA, September 27, 2007.

"Defining Safe Building Air", Criteria for Safe Air and Water in Buildings, ASHRAE Winter Meeting, Chicago, IL, January 27, 2008.

"Update on USGBC LEED and Air Filtration", Invited Speaker, NAFA 2008 Convention, San Francisco, CA, September 19, 2008.

"Ventilation and Indoor air Quality in New California Homes", National Center of Healthy Housing, October 20, 2008.

"Indoor Air Quality in New Homes", California Energy and Air Quality Conference, October 29, 2008.

"Mechanical Outdoor air Ventilation Systems and IAQ in New Homes", ACI Home Performance Conference, Kansas City, MO, April 29, 2009.

"Ventilation and IAQ in New Homes with and without Mechanical Outdoor Air Systems", Healthy Buildings 2009, Syracuse, CA, September 14, 2009.

"Ten Ways to Improve Your Air Quality", Northern California Facilities Exposition, Santa Clara, CA, September 30, 2009.

"New Developments in Ventilation and Indoor Air Quality in Residential Buildings", Westcon meeting, Alameda, CA, March 17, 2010.

"Intermittent Residential Mechanical Outdoor Air Ventilation Systems and IAQ", ASHRAE SSPC 62.2 Meeting, Austin, TX, April 19, 2010.

"Measured IAQ in Homes", ACI Home Performance Conference, Austin, TX, April 21, 2010.

"Respiration: IEQ and Ventilation", AIHce 2010, How IH Can LEED in Green buildings, Denver, CO, May 23, 2010.

"IAQ Considerations for Net Zero Energy Buildings (NZEB)", Northern California Facilities Exposition, Santa Clara, CA, September 22, 2010.

"Energy Conservation and Health in Buildings", Berkeley High SchoolGreen Career Week, Berkeley, CA, April 12, 2011.

"What Pollutants are Really There ?", ACI Home Performance Conference, San Francisco, CA, March 30, 2011.

"Energy Conservation and Health in Residences Workshop", Indoor Air 2011, Austin, TX, June 6, 2011. 2-10 Cont.

"Assessing IAQ and Improving Health in Residences", US EPA Weatherization Plus Health, September 7, 2011.

"Ventilation: What a Long Strange Trip It's Been", Westcon, May 21, 2014.

"Chemical Emissions from E-Cigarettes: Direct and Indirect Passive Exposures", Indoor Air 2014, Hong Kong, July, 2014.

"Infectious Disease Aerosol Exposures With and Without Surge Control Ventilation System Modifications", Indoor Air 2014, Hong Kong, July, 2014.

"Chemical Emissions from E-Cigarettes", IMF Health and Welfare Fair, Washington, DC, February 18, 2015.

"Chemical Emissions and Health Hazards Associated with E-Cigarettes", Roswell Park Cancer Institute, Buffalo, NY, August 15, 2014.

"Formaldehyde Indoor Concentrations, Material Emission Rates, and the CARB ATCM", Harris Martin's Lumber Liquidators Flooring Litigation Conference, WQ Minneapolis Hotel, May 27, 2015.

"Chemical Emissions from E-Cigarettes: Direct and Indirect Passive Exposure", FDA Public Workshop: Electronic Cigarettes and the Public Health, Hyattsville, MD June 2, 2015.

"Creating Healthy Homes, Schools, and Workplaces", Chautauqua Institution, Athenaeum Hotel, August 24, 2015.

"Diagnosing IAQ Problems and Designing Healthy Buildings", University of California Berkeley, Berkeley, CA, October 6, 2015.

"Diagnosing Ventilation and IAQ Problems in Commercial Buildings", BEST Center Annual Institute, Lawrence Berkeley National Laboratory, January 6, 2016.

"A Review of Studies of Ventilation and Indoor Air Quality in New Homes and Impacts of Environmental Factors on Formaldehyde Emission Rates From Composite Wood Products", AIHce2016, May, 21-26, 2016.

"Admissibility of Scientific Testimony", Science in the Court, Proposition 65 Clearinghouse Annual Conference, Oakland, CA, September 15, 2016.

"Indoor Air Quality and Ventilation", ASHRAE Redwood Empire, Napa, CA, December 1, 2016.

2-10 Cont.

EXHIBIT B

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VIA E-MAIL

April 12, 2021

Paul Samaras
City of El Segundo
350 Main Street
El Segundo, CA 90245
Em: psamaras@elsegundo.org

RE: Pacific Coast Commons Specific Plan Project

Dear Mr. Samaras,

On behalf of the Southwest Regional Council of Carpenters ("**Commenter**" or "**Carpenter**"), my Office is submitting these comments on the City of El Segundo's ("**City**" or "**Lead Agency**") Draft Environmental Impact Report ("**DEIR**") (SCH No. 2020050508) for the Pacific Coast Commons Specific Plan Project which would demolish existing structures, including a former restaurant with meeting/ballroom space, a rental car tenant, and the existing surface parking lots of the Fairfield Inn & Suites by Marriott and Aloft Hotel properties, and would allow for the development of up to 263 new housing units and approximately 11,250 gross square feet of new commercial/retail uses, and associated parking. ("**Project**"). 2-11

The Southwest Carpenters is a labor union representing 50,000 union carpenters in six states and has a strong interest in well ordered land use planning and addressing the environmental impacts of development projects.

Individual members of the Southwest Carpenters live, work and recreate in the City and surrounding communities and would be directly affected by the Project's environmental impacts.

Commenters expressly reserves the right to supplement these comments at or prior to hearings on the Project, and at any later hearings and proceedings related to this Project. Cal. Gov. Code § 65009(b); Cal. Pub. Res. Code § 21177(a); *Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121.

Commenters expressly reserves the right to supplement these comments at or prior to hearings on the Project, and at any later hearings and proceedings related to this Project. Cal. Gov. Code § 65009(b); Cal. Pub. Res. Code § 21177(a); *Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121.

Commenters incorporates by reference all comments raising issues regarding the EIR submitted prior to certification of the EIR for the Project. *Citizens for Clean Energy v City of Woodland* (2014) 225 Cal. App. 4th 173, 191 (finding that any party who has objected to the Project's environmental documentation may assert any issue timely raised by other parties).

Moreover, Commenter requests that the Lead Agency provide notice for any and all notices referring or related to the Project issued under the California Environmental Quality Act ("**CEQA**"), Cal Public Resources Code ("**PRC**") § 21000 *et seq*, and the California Planning and Zoning Law ("**Planning and Zoning Law**"), Cal. Gov't Code §§ 65000–65010. California Public Resources Code Sections 21092.2, and 21167(f) and Government Code Section 65092 require agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body. 2-11 Cont.

The City should require the Applicant provide additional community benefits such as requiring local hire and use of a skilled and trained workforce to build the Project. The City should require the use of workers who have graduated from a Joint Labor Management apprenticeship training program approved by the State of California, or have at least as many hours of on-the-job experience in the applicable craft which would be required to graduate from such a state approved apprenticeship training program or who are registered apprentices in an apprenticeship training program approved by the State of California.

Community benefits such as local hire and skilled and trained workforce requirements can also be helpful to reduce environmental impacts and improve the positive economic impact of the Project. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project Site can reduce the length of vendor trips, reduce greenhouse gas emissions and providing localized economic benefits. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project Site can reduce the length of vendor trips, reduce greenhouse gas emissions and providing localized economic benefits. As environmental consultants Matt Hagemann and Paul E. Rosenfeld note:

> [A]ny local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling.

Skilled and trained workforce requirements promote the development of skilled trades that yield sustainable economic development. As the California Workforce Development Board and the UC Berkeley Center for Labor Research and Education concluded:

> . . . labor should be considered an investment rather than a cost – and investments in growing, diversifying, and upskilling California's workforce can positively affect returns on climate mitigation efforts. In other words, well trained workers are key to delivering emissions reductions and moving California closer to its climate targets.[1]

2-11 Cont.

The City should also require the Project to be built to standards exceeding the current 2019 California Green Building Code to mitigate the Project's environmental impacts and to advance progress towards the State of California's environmental goals.

I. EXPERTS

This comment letter includes comments from air quality and greenhouse gas experts Matt Hagemann, P.G., C.Hg. and Paul Rosenfeld, Ph.D. concerning the DEIR. Their comments, attachments, and Curriculum Vitae ("CV") are attached hereto and are incorporated herein by reference.

Matt Hagemann, P.G., C.Hg. ("Mr. Hagemann") has over 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

[1] California Workforce Development Board (2020) Putting California on the High Road: A Jobs and Climate Action Plan for 2030 at p. ii, *available at* *https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/Putting-California-on-the-High-Road.pdf*

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, Mr. Hagemann also served as Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closer. 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, Mr. Hagemann has worked as a founding partner with SWAPE (Soil/Water/Air Protection Enterprise). At SWAPE, Mr. Hagemann 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.

Mr. Hagemann has a Bachelor of Arts degree in geology from Humboldt State University in California and a Masters in Science degree from California State University Los Angeles in California.

2-11 Cont.

Paul Rosenfeld, Ph.D. ("Dr. Rosenfeld") is a principal environmental chemist at SWAPE. Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts on human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risks, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. 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 investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particular matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, 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 dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Dr. Rosenfeld has a Ph.D. in soil chemistry from the University of Washington, M.S. in environmental science from U.C. Berkeley, and B.A. in environmental studies from U.C. Santa Barbara.

II. THE PROJECT WOULD BE APPROVED IN VIOLATION OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

A. Background Concerning the California Environmental Quality Act

CEQA has two basic purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 California Code of Regulations (**"CCR"** or **"CEQA Guidelines"**) § 15002(a)(1).[2] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made. Thus, the EIR 'protects not only the environment but also informed self-government.' [Citation.]" *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564. The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 (*"Berkeley Jets"*); *County of Inyo v. Yorty* (1973) 32 Cal. App. 3d 795, 810.

Second, CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring alternatives or mitigation measures. CEQA Guidelines § 15002(a)(2) and (3). *See also, Berkeley Jets,* 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta*

2-11 Cont.

[2] The CEQA Guidelines, codified in Title 14 of the California Code of Regulations, section 15000 *et seq,* are regulatory guidelines promulgated by the state Natural Resources Agency for the implementation of CEQA. (Cal. Pub. Res. Code § 21083.) The CEQA Guidelines are given "great weight in interpreting CEQA except when . . . clearly unauthorized or erroneous." *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal. 4th 204, 217.

Valley v. Board of Supervisors (1990) 52 Cal.3d 553; *Laurel Heights Improvement Ass'n v. Regents of the University of California* (1988) 47 Cal. 3d 376, 400. The EIR serves to provide public agencies and the public in general with information about the effect that a proposed project is likely to have on the environment and to "identify ways that environmental damage can be avoided or significantly reduced." CEQA Guidelines § 15002(a)(2). If the project has a significant effect on the environment, the agency may approve the project only upon finding that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns" specified in CEQA section 21081. CEQA Guidelines § 15092(b)(2)(A–B).

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position.' A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" *Berkeley Jets*, 91 Cal.App.4th 1344, 1355 (emphasis added) (quoting *Laurel Heights,* 47 Cal.3d at 391, 409 fn. 12). Drawing this line and determining whether the EIR complies with CEQA's information disclosure requirements presents a question of law subject to independent review by the courts. *Sierra Club v. Cnty. of Fresno* (2018) 6 Cal. 5th 502, 515; *Madera Oversight Coalition, Inc. v. County of Madera* (2011) 199 Cal. App. 4th 48, 102, 131. As the court stated in *Berkeley Jets,* 91 Cal. App. 4th at 1355: 2-11 Cont.

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.

The preparation and circulation of an EIR is more than a set of technical hurdles for agencies and developers to overcome. The EIR's function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the public is assured those consequences have been considered. For the EIR to serve these goals it must present information so that the foreseeable impacts of pursuing the project can be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made. *Communities for a Better Environment v. Richmond* (2010) 184 Cal. App. 4th 70, 80 (quoting *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 449–450).

B. CEQA Requires Revision and Recirculation of an Environmental Impact Report When Substantial Changes or New Information Comes to Light

Section 21092.1 of the California Public Resources Code requires that "[w]hen significant new information is added to an environmental impact report after notice has been given pursuant to Section 21092 … but prior to certification, the public agency shall give notice again pursuant to Section 21092, and consult again pursuant to Sections 21104 and 21153 before certifying the environmental impact report" in order to give the public a chance to review and comment upon the information. CEQA Guidelines § 15088.5.

Significant new information includes "changes in the project or environmental setting as well as additional data or other information" that "deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative)." CEQA Guidelines § 15088.5(a). Examples of significant new information requiring recirculation include "new significant environmental impacts from the project or from a new mitigation measure," "substantial increase in the severity of an environmental impact," "feasible project alternative or mitigation measure considerably different from others previously analyzed" as well as when "the draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded." *Id.* 2-11 Cont.

An agency has an obligation to recirculate an environmental impact report for public notice and comment due to "significant new information" regardless of whether the agency opts to include it in a project's environmental impact report. *Cadiz Land Co. v. Rail Cycle* (2000) 83 Cal.App.4th 74, 95 [finding that in light of a new expert report disclosing potentially significant impacts to groundwater supply "the EIR should have been revised and recirculated for purposes of informing the public and governmental agencies of the volume of groundwater at risk and to allow the public and governmental agencies to respond to such information."]. If significant new information was brought to the attention of an agency prior to certification, an agency is required to revise and recirculate that information as part of the environmental impact report.

C. Due to the COVID-19 Crisis, the City Must Adopt a Mandatory Finding of Significance that the Project May Cause a Substantial Adverse Effect on Human Beings and Mitigate COVID-19 Impacts

CEQA requires that an agency make a finding of significance when a Project may cause a significant adverse effect on human beings. PRC § 21083(b)(3); CEQA Guidelines § 15065(a)(4).

Public health risks related to construction work requires a mandatory finding of significance under CEQA. Construction work has been defined as a Lower to High-risk activity for COVID-19 spread by the Occupations Safety and Health Administration. Recently, several construction sites have been identified as sources of community spread of COVID-19.[3]

SWRCC recommends that the Lead Agency adopt additional CEQA mitigation measures to mitigate public health risks from the Project's construction activities. SWRCC requests that the Lead Agency require safe on-site construction work practices as well as training and certification for any construction workers on the Project Site. 2-11 Cont.

In particular, based upon SWRCC's experience with safe construction site work practices, SWRCC recommends that the Lead Agency require that while construction activities are being conducted at the Project Site:

Construction Site Design:

- The Project Site will be limited to two controlled entry points.
- Entry points will have temperature screening technicians taking temperature readings when the entry point is open.
- The Temperature Screening Site Plan shows details regarding access to the Project Site and Project Site logistics for conducting temperature screening.
- A 48-hour advance notice will be provided to all trades prior to the first day of temperature screening.

[3] Santa Clara County Public Health (June 12, 2020) COVID-19 CASES AT CONSTRUCTION SITES HIGHLIGHT NEED FOR CONTINUED VIGILANCE IN SECTORS THAT HAVE REOPENED, *available at* https://www.sccgov.org/sites/covid19/Pages/press-release-06-12-2020-cases-at-construction-sites.aspx.

- The perimeter fence directly adjacent to the entry points will be clearly marked indicating the appropriate 6-foot social distancing position for when you approach the screening area. Please reference the Apex temperature screening site map for additional details.
- There will be clear signage posted at the project site directing you through temperature screening.
- Provide hand washing stations throughout the construction site.

Testing Procedures:

- The temperature screening being used are non-contact devices.
- Temperature readings will not be recorded.
- Personnel will be screened upon entering the testing center and should only take 1-2 seconds per individual. 2-11 Cont.
- Hard hats, head coverings, sweat, dirt, sunscreen or any other cosmetics must be removed on the forehead before temperature screening.
- Anyone who refuses to submit to a temperature screening or does not answer the health screening questions will be refused access to the Project Site.
- Screening will be performed at both entrances from 5:30 am to 7:30 am.; main gate [ZONE 1] and personnel gate [ZONE 2]
- After 7:30 am only the main gate entrance [ZONE 1] will continue to be used for temperature testing for anybody gaining entry to the project site such as returning personnel, deliveries, and visitors.
- If the digital thermometer displays a temperature reading above 100.0 degrees Fahrenheit, a second reading will be taken to verify an accurate reading.

- If the second reading confirms an elevated temperature, DHS will instruct the individual that he/she will not be allowed to enter the Project Site. DHS will also instruct the individual to promptly notify his/her supervisor and his/her human resources (HR) representative and provide them with a copy of Annex A.

Planning

- Require the development of an Infectious Disease Preparedness and Response Plan that will include basic infection prevention measures (requiring the use of personal protection equipment), policies and procedures for prompt identification and isolation of sick individuals, social distancing (prohibiting gatherings of no more than 10 people including all-hands meetings and all-hands lunches) communication and training and workplace controls that meet standards that may be promulgated by the Center for Disease Control, Occupational Safety and Health Administration, Cal/OSHA, California Department of Public Health or applicable local public health agencies.[4] 2-11 Cont.

The United Brotherhood of Carpenters and Carpenters International Training Fund has developed COVID-19 Training and Certification to ensure that Carpenter union members and apprentices conduct safe work practices. The Agency should require that all construction workers undergo COVID-19 Training and Certification before being allowed to conduct construction activities at the Project Site.

D. The DEIR's Mitigation Measures are Impermissibly Vague and Defer Critical Details

The DEIR improperly defers critical details of mitigation measures. Feasible mitigation measures for significant environmental effects must be set forth in an EIR for

[4] *See also* The Center for Construction Research and Training, North America's Building Trades Unions (April 27 2020) NABTU and CPWR COVIC-19 Standards for U.S Constructions Sites, *available at* https://www.cpwr.com/sites/default/files/NABTU_CPWR_Standards_COVID-19.pdf; Los Angeles County Department of Public Works (2020) Guidelines for Construction Sites During COVID-19 Pandemic, *available at* https://dpw.lacounty.gov/building-and-safety/docs/pw_guidelines-construction-sites.pdf.

consideration by the lead agency's decision makers and the public before certification of the EIR and approval of a project. The formulation of mitigation measures generally cannot be deferred until after certification of the EIR and approval of a project. CEQA Guidelines § 15126.4(a)(1)(B) ("… [f]ormulation of mitigation measures should not be deferred until some future time.").

Deferring critical details of mitigation measures undermines CEQA's purpose as a public information and decision-making statute. "[R]eliance on tentative plans for future mitigation after completion of the CEQA process significantly undermines CEQA's goals of full disclosure and informed decisionmaking; and[,] consequently, these mitigation plans have been overturned on judicial review as constituting improper deferral of environmental assessment." *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal. App. 4th 70, 92 ("*Communities*"). As the Court noted in *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 307, "[a] study conducted after approval of a project will inevitably have a diminished influence on decision-making. Even if the study is subject to administrative approval, it is analogous to the sort of post hoc rationalization of agency actions that has been repeatedly condemned in decisions construing CEQA." 2-11 Cont.

A lead agency's adoption of an EIR's proposed mitigation measure for a significant environmental effect that merely states a "generalized goal" to mitigate a significant effect without committing to any specific criteria or standard of performance violates CEQA by improperly deferring the formulation and adoption of enforceable mitigation measures. *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670; *Communities*, 184 Cal.App.4th at 93 ("EIR merely proposes a generalized goal of no net increase in greenhouse gas emissions and then sets out a handful of cursorily described mitigation measures for future consideration that might serve to mitigate the [project's significant environmental effects."); cf. *Sacramento Old City Assn. v. City Council* (1991) 229 Cal.App.3d 1011, 1028-1029 (upheld EIR that set forth a range of mitigation measures to offset significant traffic impacts where performance criteria would have to be met, even though further study was needed and EIR did not specify which measures had to be adopted by city).].

The following Project mitigation measures are impermissibly vague and defer critical details:

- MM-CUL-1: Calls for development, but does not include details, of a Worker Environmental

Awareness Program (WEAP) in order to address impacts to archeological resources;

- MM-GEO-1: Calls for a paleontologist to prepare a Paleontolgoical Resources Impact Mitigation Program (PRIMP) to mitigate unique paleontological resources but does not include any details of the PRIMP for review;
- MM-HAZ-1: Calls for incorporation of "abatement procedures" to remove asbestos, lead, etc. but does not include any specific performance standards for removal and does not include any plan in the DEIR for review; and
- MM-HAZ-2: Calls for development of a Hazardous Materials Contingency Plan (HMCP) to address potential impacts relating to soil and vapor intrusion with the 76 gas station adjacent to PCC-North, but again, fails to include any plan or any performance standards by which soil vapor would be mitigated to less than significant levels. 2-11 Cont.

(DEIR, ES-10~16.)

E. <u>The DEIR Fails to Support Its Findings with Substantial Evidence</u>

When new information is brought to light showing that an impact previously discussed in the DEIR but found to be insignificant with or without mitigation in the DEIR's analysis has the potential for a significant environmental impact supported by substantial evidence, the EIR must consider and resolve the conflict in the evidence. See *Visalia Retail, L.P. v. City of Visalia* (2018) 20 Cal. App. 5th 1, 13, 17; see also *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal. App. 4th 1099, 1109. While a lead agency has discretion to formulate standards for determining significance and the need for mitigation measures—the choice of any standards or thresholds of significance must be "based to the extent possible on scientific and factual data and an exercise of reasoned judgment based on substantial evidence. CEQA Guidelines § 15064(b); *Cleveland Nat'l Forest Found. v. San Diego Ass'n of Gov'ts* (2017) 3 Cal. App. 5th 497, 515; *Mission Bay Alliance v. Office of Community Inv. & Infrastructure* (2016) 6 Cal. App. 5th 160, 206. And when there is evidence that an impact could be significant, an EIR cannot adopt a contrary finding without providing an adequate explanation along with supporting evidence. *East Sacramento Partnership for a Livable City v. City of Sacramento* (2016) 5 Cal. App. 5th 281, 302.

In addition, a determination that regulatory compliance will be sufficient to prevent significant adverse impacts must be based on a project-specific analysis of potential impacts and the effect of regulatory compliance. In *Californians for Alternatives to Toxics v. Department of Food & Agric.* (2005) 136 Cal. App. 4th 1, the court set aside an EIR for a statewide crop disease control plan because it did not include an evaluation of the risks to the environment and human health from the proposed program but simply presumed that no adverse impacts would occur from use of pesticides in accordance with the registration and labeling program of the California Department of Pesticide Regulation. *See also Ebbetts Pass Forest Watch v Department of Forestry & Fire Protection* (2008) 43 Cal. App. 4th 936, 956 (fact that Department of Pesticide Regulation had assessed environmental effects of certain herbicides in general did not excuse failure to assess effects of their use for specific timber harvesting project).

1. *The DEIR Fails to Support its Findings on Greenhouse Gas Impacts with Substantial Evidence.*

2-11 Cont.

CEQA Guidelines § 15064.4 allow a lead agency to determine the significance of a project's GHG impact via a qualitative analysis (e.g., extent to which a project complies with regulations or requirements of state/regional/local GHG plans), and/or a quantitative analysis (e.g., using model or methodology to estimate project emissions and compare it to a numeric threshold). So too, CEQA Guidelines allow lead agencies to select what model or methodology to estimate GHG emissions so long as the selection is supported with substantial evidence, and the lead agency "should explain the limitations of the particular model or methodology selected for use." CEQA Guidelines § 15064.4(c).

CEQA Guidelines sections 15064.4(b)(3) and 15183.5(b) allow a lead agency to consider a project's consistency with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

CEQA Guidelines §§ 15064.4(b)(3) and 15183.5(b)(1) make clear qualified GHG reduction plans or CAPs should include the following features:

(1) **Inventory**: Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities (e.g., projects) within a defined geographic area (e.g., lead agency jurisdiction);

(2) **Establish GHG Reduction Goal**: Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;

(3) **Analyze Project Types**: Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;

(4) **Craft Performance Based Mitigation Measures**: Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;

(5) **Monitoring**: Establish a mechanism to monitor the CAP progress toward achieving said level and to require amendment if the plan is not achieving specified levels; 2-11 Cont.

Collectively, the above-listed CAP features tie qualitative measures to quantitative results, which in turn become binding via proper monitoring and enforcement by the jurisdiction—all resulting in real GHG reductions for the jurisdiction as a whole, and the substantial evidence that the incremental contribution of an individual project is not cumulatively considerable.

Here, the DEIR's analysis of greenhouse gas emissions impacts is not supported by substantial evidence for all of the reasons outlined in SWAPE's April 12, 2021 letter regarding their review of the DEIR[5]:

- The DEIR utilized an incorrect and unsubstantiated quantitative analysis of emissions;
- The DEIR incorrectly relied upon an outdated quantitative GHG threshold;

[5] April 12, 2021 SWAPE Letter to Greg Sonstein re Comments on Pacific Coast Commons Specific Plan Project. Attached hereto as Exhibit D.

- The DEIR failed to identify a potentially significant GHG impact; and
- The DEIR failed to consider performance-based standards under CARB's 2017 Scoping Plan, and failed to consider performance-based standards under SCAG's RTP/SCS plan.

(Exhibit D, 20-27.)

Additionally, the DEIR needs to consider and incorporate all of the feasible mitigation measures to reduce identified GHG impacts proposed by SWAPE. (Exhibit D, 27-34.)

2. *The DEIR Fails to Support its Findings on Air Quality Impacts with Substantial Evidence.*

Second, the DEIR's Air Quality analysis is fundamentally flawed and not supported by substantial evidence for all the reasons outlined in SWAPE's comments, including:

- Use of unsubstantiated input parameters to estimate project emissions,
  - Underestimated land use sizes;
  - Failure to model all required demolition;
  - Unsubstantiated changed to acres of grading values;
  - Unsubstantiated changes to material silt content values;
  - Unsubstantiated change to hauling trip numbers;
  - Unsubstantiated changes to architectural and area coating areas;
  - Underestimated operational vehicle trip rates;
  - Unsubstantiated changes to energy use values;
  - Unsubstantiated changes to wastewater treatment system percentages;
  - Incorrect application of construction-related mitigation measures;
  - Incorrect application of mobile-related operational mitigation measures; and
  - Failing to adequately analyze diesel particulate matter health risk emissions and identify a potentially significant health risk impact.

(Exhibit D, 1-19.)

Additionally, as noted above, the DEIR fails to consider or include many feasible mitigation measures proposed by SWAPE to reduce significant air quality impacts.

2-11 Cont.

(DEIR, 27-34.) The DEIR needs to be revised and recirculated with a substantiated air quality analysis that includes all feasible mitigation measures to reduce impacts.

3. *The DEIR Fails to Support its Findings on Transportation Impacts with Substantial Evidence.*

CEQA Guidelines § 15064.3(b) requires analysis of a Project's vehicle miles traveled (VMT) impacts as part of the environmental document's transportation impacts analysis. According to the DEIR, the OPR technical guidance suggests that projects which have a VMT per capita of 15% or more below existing conditions may indicate a less than significant transportation impact relating to VMT. (DEIR, 4.13-21 – 2.) Assuming then this is the proper methodology, the DEIR concludes that the Project would have a less than significant VMT impact because the project is predicted to exhibit more than a 15% reduction in VMT over VMT per capita for the City as a whole, and the region. (DEIR, 4.13-22.)

The DEIR estimates a VMT per capita of 10.9 based upon the project site's location within TAZ (transportation analysis zone) 21125100—yet, it is not clear that this VMT estimate accounts for trips other than home-based VMT which is traced back to residences.[6] Home-based VMT excludes work trips and other trips not originating from residences in the Project area. Thus, the TAZ estimate is not an accurate reflection of actual (or total) VMT per capita for the TAZ cannot be relied upon to determine VMT impact significance. A home-based VMT analysis is even less supported in the case of a project that includes mixed-use development, as here, such as a hotel and retail uses where home-based VMT estimates will not accurately reflect total VMT. 2-11 Cont.

The DEIR should be revised and recirculated with a transportation analysis that includes total VMT estimates.

4. *The DEIR Fails to Support its Findings on Hazards and Hazardous Materials Impacts with Substantial Evidence.*

Appendix F of the DEIR (Phase I ESA) identifies numerous potentially hazardous waste sites in and around the Project site. Though some of these sites have received regulatory closure, the DEIR identifies at least one site "which could impact the

[6] *See, e.g., Transportation Analysis Updates in Santa Clarita* (May 19, 2020), prepared for City of Santa Clarita by Fehr & Peers, p. 15. Available at https://www.santa-clarita.com/Home/ShowDocument?id=18536.

Project site." (DEIR, 4.7-4.) The DEIR also identifies at least three other hazardous material release sites but postulates they would "not likely impact the environmental condition of the Project site. (*Id.*) Additionally, numerous UST violations were identified near the Project site; a gas station has been under ongoing operations since the 1930s which also includes environmental hazard violations for releases of petroleum products; and other multiple sources of PCE and TCE contamination were identified in the Project site area relating to manufacturing operations. (DEIR, 4.7-5.)

Despite all this evidence of potential hazardous substances release and a Phase I ESA of the site or area, the DEIR concludes that there would be no long-term operational impacts involving the release of hazardous materials. (DEIR, 4.7-21.) The City simply cannot rule out a risk to future Project site occupants from release of hazardous materials from all of these known sources without a Phase II ESA. The DEIR admits that ongoing operations of the former 76 gas station indicate a potential for release of hazardous substances, and many sources of PCE and TCE are present in the area that may require mitigation that have not been characterized at the site. This information does not support a conclusion of a less than significant impact without further studies. The DEIR should be revised and recirculated to include a Phase II ESA of the Project site that includes the surrounding area to adequately analyze whether there are potential impacts that may require mitigation.

2-11
Cont.

F. The Project Objectives are Unduly Narrow

Project objectives should not be so narrowly defined that they preclude consideration of reasonable alternatives for achieving the project's underlying purpose. *North Coast Rivers Alliance v Kawamura* (2015) 243 Cal. App. 4th 647, 668. Inconsistency with only some project objectives may not be an appropriate basis to eliminate impact-reducing project alternatives from analysis in an EIR. See CEQA Guidelines § 15126.6(c), (f). The fact that a proposed alternative does not meet all of the Project Objectives is not an appropriate basis to eliminate impact-reducing alternatives from analysis in an EIR. CEQA Guidelines § 15126.6(c), (f). Objectives should be based on the underlying purpose of the project, rather than the specific nature of the proposed project. *Habitat & Watershed Caretakers v City of Santa Cruz* (2013) 213 Cal. App. 4th 1277, 1299 (holding that the project objective of implementing a settlement agreement relating to expansion of a University of California campus was too narrow and too focused on the nature of the Project).

Here, the EIR provides extremely narrow and specific objectives that essentially only describe the proposed Project, rather than the purpose of the project:

- Objective 1 calls for maintaining existing hotel uses; and
- Objective 5 calls for increasing the efficient use of land by eliminating surface parking lots and providing parking garages that allow for sharing among hotel commercial, and residential land uses.

(DEIR, 3-18.)

Effectively, the above Project objectives so narrowly define the scope of the Project that it curtails any meaningful analysis or consideration of Project alternatives that could substantially reduce the Project's environmental impacts. A revised and recirculated DEIR should include amended Project objectives that do not circumscribe the EIR's Alternatives' analysis.

III. THE PROJECT VIOLATES THE STATE PLANNING AND ZONING LAW AS WELL AS THE CITY'S GENERAL PLAN

A. Background Regarding the State Planning and Zoning Law

2-11 Cont.

Each California city and county must adopt a comprehensive, long-term general plan governing development. *Napa Citizens for Honest Gov. v. Napa County Bd. of Supervisors* (2001) 91 Cal. App.4th 342, 352, citing Gov. Code §§ 65030, 65300. The general plan sits at the top of the land use planning hierarchy (See *DeVita v. County of Napa* (1995) 9 Cal. App. 4th 763, 773), and serves as a "constitution" or "charter" for all future development. *Lesher Communications, Inc. v. City of Walnut Creek* (1990) 52 Cal. App. 3d 531, 540.

General plan consistency is "the linchpin of California's land use and development laws; it is the principle which infused the concept of planned growth with the force of law." See *Debottari v. Norco City Council* (1985) 171 Cal. App. 3d 1204, 1213.

State law mandates two levels of consistency. First, a general plan must be internally or "horizontally" consistent: its elements must "comprise an integrated, internally consistent and compatible statement of policies for the adopting agency." (See Gov. Code § 65300.5; *Sierra Club v. Bd. of Supervisors* (1981) 126 Cal. App. 3d 698, 704.) A general plan amendment thus may not be internally inconsistent, nor may it cause the general plan as a whole to become internally inconsistent. See *DeVita*, 9 Cal. App. 4th at 796 fn. 12.

Second, state law requires "vertical" consistency, meaning that zoning ordinances and other land use decisions also must be consistent with the general plan. (See Gov. Code § 65860(a)(2) [land uses authorized by zoning ordinance must be "compatible with the objectives, policies, general land uses, and programs specified in the [general] plan."]; see also *Neighborhood Action Group v. County of Calaveras* (1984) 156 Cal. App. 3d 1176, 1184.) A zoning ordinance that conflicts with the general plan or impedes achievement of its policies is invalid and cannot be given effect. See *Lesher*, 52 Cal. App. 3d at 544.

State law requires that all subordinate land use decisions, including conditional use permits, be consistent with the general plan. See Gov. Code § 65860(a)(2); *Neighborhood Action Group*, 156 Cal. App. 3d at 1184.

A project cannot be found consistent with a general plan if it conflicts with a general plan policy that is "fundamental, mandatory, and clear," regardless of whether it is consistent with other general plan policies. See *Endangered Habitats League v. County of Orange* (2005) 131 Cal. App. 4th 777, 782-83; *Families Unafraid to Uphold Rural El Dorado County v. Bd. of Supervisors* (1998) 62 Cal. App. 4th 1332, 1341-42 ("FUTURE"). 2-11 Cont.

Moreover, even in the absence of such a direct conflict, an ordinance or development project may not be approved if it interferes with or frustrates the general plan's policies and objectives. See *Napa Citizens*, 91 Cal. App. 4th at 378-79; see also *Lesher*, 52 Cal. App. 3d at 544 (zoning ordinance restricting development conflicted with growth-oriented policies of general plan).

B. <u>The DEIR Fails to Demonstrate Consistency with SCAG's RTP/SCS Plan</u>

Senate Bill No. 375 requires regional planning agencies to include a sustainable communities strategy in their regional transportation plans. Gov. Code § 65080, sub.(b)(2)(B).) CEQA Guidelines § 15125(d) provides that an EIR "shall discuss any inconsistencies between the proposed project and…regional plans. Such regional plans include…regional transportation plans." Thus, CEQA requires analysis of any inconsistencies between the Project and the relevant RTP/SCS plan.

In September 2008, SB 375 (Gov. Code § 65080(b) et seq.) was instituted to help achieve AB 32 goals through strategies including requiring regional agencies to prepare a Sustainable Communities Strategy ("SCS") to be incorporated into their Regional Transportation Plan ("RTP"). The RTP links land use planning with the regional transportation system so that the region can grow smartly and sustainably, while also demonstrating how the region will meet targets set by CARB that reduce the per capita GHG emission from passenger vehicles in the region.

According to SWAPE's comments, the DEIR failed to consider performance-based standards under the RTP/SCS plan. The DEIR failed to evaluate whether the Project is consistent with per capita GHG emission targets, or daily vehicle miles traveled. (Ex. D, 24.) And according to SWAPE's analysis and conclusion, the Project exceeds both per capita GHG emissions targets and daily VMT per capita—thus, the Project is not consistent with SCAG's RTP/SCS Plan.

C. <u>The DEIR Fails to Demonstrate Consistency with the State Housing Law's Regional Housing Needs Assessment Requirements and the City's Obligations to Fulfill those Requirements in its Housing Element</u>

State law requires that jurisdictions provide their fair share of regional housing needs and adopt a general plan for future growth (California Government Code Section 65300). The California Department of Housing and Community Development (HCD) is mandated to determine state-wide housing needs by income category for each Council of Governments (COG) throughout the state. The housing need is determined based on four broad household income categories: very low (households making less than 50 percent of median family income), low (50 to 80 percent of median family income), moderate (80 to 120 percent of median family income), and above moderate (more than 120 percent of median family income). The intent of the future needs allocation by income groups is to relieve the undue concentration of very low and low-income households in a single jurisdiction and to help allocate resources in a fair and equitable manner. 2-11 Cont.

CEQA requires the DEIR analyze the Project's consistency with the State's housing goals. CEQA Guidelines section 15125(d) requires that an environmental impact report "discuss any inconsistencies between the proposed project and applicable general plans, specific plans and regional plans. *See also Golden Door Properties, LLC v. County of San Diego* (2020) 50 Cal. App. 5th 467, 543.

A Court "[w]hen reviewing whether a discussion is sufficient to satisfy CEQA, . . . the EIR (1) includes sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises [citation omitted], and (2) makes a reasonable effort to substantively connect a project's air quality impacts to likely health consequences." (*Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502, 510 [citing *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 405.]; see also PRC §§ 21002.1(e), 21003(b).) The Court may determine whether a CEQA environmental document sufficiently discloses information required by CEQA de novo as "noncompliance with the information disclosure provisions" of CEQA is a failure to proceed in a manner required by law. (PRC § 21005(a); see also *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502, 515.)

SCAG is the COG for Los Angeles County and has determined that the City's RHNA for the 6th Cycle allocation period is 189 units for very low income residents, 88 units for low income residents, 84 units for moderate income residents, and 131 unit for above moderate income residents for a total of 492 housing units.[7]

First, the City fails to analyze consistency with the latest RHNA allocation in the DEIR. (DEIR, 4.11-6.) Second, the Project fails to include *any* affordable housing units as part of the Project for residents with income below above moderate. The City is required to meet the housing needs of all of city residents under the state housing law. While the DEIR calls for a provision in a future development agreement to include some affordable housing units, at this stage of the Project, none are included and no development agreement has been drafted. 2-11 Cont.

The DEIR should be revised and recirculated with an affordable housing component.

IV. CONCLUSION

Commenters request that the City deny the Project's proposed Site Plan Review and any other discretionary approvals the City finds necessary and order the revision and recirculation of the Project's environmental impact report to address the aforementioned concerns.

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[7] SCAG Regional Housing Needs Assessment Final Allocation, 6th Cycle Final RHNA Allocation Plan. Available at https://scag.ca.gov/rhna.

City of El Segundo – Pacific Coast Commons Specific Plan Project
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Please contact my Office if you have any questions or concerns.

Sincerely,

Mitchell M. Tsai

Attorneys for Southwest Regional
Council of Carpenters

Attached:

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling (Exhibit A);

Air Quality and GHG Expert Paul Rosenfeld CV (Exhibit B);

Air Quality and GHG Expert Matt Hagemann CV (Exhibit C); and

April 12, 2021 SWAPE Letter to Greg Sonstein re Comments on the Pacific Coast Commons Specific Plan Project (Exhibit D). 2-11 Cont.

EXHIBIT A

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

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March 8, 2021

Mitchell M. Tsai
155 South El Molino, Suite 104
Pasadena, CA 91101

Subject: Local Hire Requirements and Considerations for Greenhouse Gas Modeling

Dear Mr. Tsai,

Soil Water Air Protection Enterprise ("SWAPE") is pleased to provide the following draft technical report explaining the significance of worker trips required for construction of land use development projects with respect to the estimation of greenhouse gas ("GHG") emissions. The report will also discuss the potential for local hire requirements to reduce the length of worker trips, and consequently, reduced or mitigate the potential GHG impacts. 2-12

Worker Trips and Greenhouse Gas Calculations

The California Emissions Estimator Model ("CalEEMod") is a "statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects."[1] CalEEMod quantifies construction-related emissions associated with land use projects resulting from off-road construction equipment; on-road mobile equipment associated with workers, vendors, and hauling; fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads; and architectural coating activities; and paving.[2]

The number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[3]

[1] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[2] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[3] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.

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Specifically, the number and length of vehicle trips is utilized to estimate the vehicle miles travelled ("VMT") associated with construction. Then, utilizing vehicle-class specific EMFAC 2014 emission factors, CalEEMod calculates the vehicle exhaust, evaporative, and dust emissions resulting from construction-related VMT, including personal vehicles for worker commuting.[4]

Specifically, in order to calculate VMT, CalEEMod multiplies the average daily trip rate by the average overall trip length (see excerpt below):

"$VMT_d = \Sigma(\text{Average Daily Trip Rate}_i * \text{Average Overall Trip Length}_i)_n$

Where:

n = Number of land uses being modeled."[5]

Furthermore, to calculate the on-road emissions associated with worker trips, CalEEMod utilizes the following equation (see excerpt below):

"$\text{Emissions}_{pollutant} = VMT * EF_{running,pollutant}$

Where:

$\text{Emissions}_{pollutant}$ = emissions from vehicle running for each pollutant

VMT = vehicle miles traveled

$EF_{running,pollutant}$ = emission factor for running emissions."[6]

Thus, there is a direct relationship between trip length and VMT, as well as a direct relationship between VMT and vehicle running emissions. In other words, when the trip length is increased, the VMT and vehicle running emissions increase as a result. Thus, vehicle running emissions can be reduced by decreasing the average overall trip length, by way of a local hire requirement or otherwise. 2-12 Cont.

Default Worker Trip Parameters and Potential Local Hire Requirements

As previously discussed, the number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[7] In order to understand how local hire requirements and associated worker trip length reductions impact GHG emissions calculations, it is important to consider the CalEEMod default worker trip parameters. 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.[8] The default number of construction-related worker trips is calculated by multiplying the

[4] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14-15.
[5] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 23.
[6] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[7] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[8] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 1, 9.

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number of pieces of equipment for all phases by 1.25, with the exception of worker trips required for the building construction and architectural coating phases.[9] Furthermore, the worker trip vehicle class is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively."[10] Finally, the default worker trip length is consistent with the length of the operational home-to-work vehicle trips.[11] The operational home-to-work vehicle trip lengths are:

> "[B]ased on the *location* and *urbanization* selected on the project characteristic screen. These values were *supplied by the air districts or use a default average for the state*. Each district (or county) also assigns trip lengths for urban and rural settings" (emphasis added).[12]

Thus, the default worker trip length is based on the location and urbanization level selected by the User when modeling emissions. The below table shows the CalEEMod default rural and urban worker trip lengths by air basin (see excerpt below and Attachment A).[13]

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Minimum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

2-12 Cont.

[9] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[10] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[11] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14.
[12] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 21.
[13] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-84 – D-86.

3

As demonstrated above, default rural worker trip lengths for air basins in California vary from 10.8- to 19.8-miles, with an average of 16.47 miles. Furthermore, default urban worker trip lengths vary from 10.8- to 14.7-miles, with an average of 11.17 miles. Thus, while default worker trip lengths vary by location, default urban worker trip lengths tend to be shorter in length. Based on these trends evident in the CalEEMod default worker trip lengths, we can reasonably assume that the efficacy of a local hire requirement is especially dependent upon the urbanization of the project site, as well as the project location.

Practical Application of a Local Hire Requirement and Associated Impact

To provide an example of the potential impact of a local hire provision on construction-related GHG emissions, we estimated the significance of a local hire provision for the Village South Specific Plan ("Project") located in the City of Claremont ("City"). The Project proposed to construct 1,000 residential units, 100,000-SF of retail space, 45,000-SF of office space, as well as a 50-room hotel, on the 24-acre site. The Project location is classified as Urban and lies within the Los Angeles-South Coast County. As a result, the Project has a default worker trip length of 14.7 miles.[14] In an effort to evaluate the potential for a local hire provision to reduce the Project's construction-related GHG emissions, we prepared an updated model, reducing all worker trip lengths to 10 miles (see Attachment B). Our analysis estimates that if a local hire provision with a 10-mile radius were to be implemented, the GHG emissions associated with Project construction would decrease by approximately 17% (see table below and Attachment C).

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO_2e)	3,623
Amortized Construction GHG Emissions (MT CO_2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized Construction GHG Emissions (MT CO_2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

As demonstrated above, by implementing a local hire provision requiring 10 mile worker trip lengths, the Project could reduce potential GHG emissions associated with construction worker trips. More broadly, any local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

This serves as an example of the potential impacts of local hire requirements on estimated project-level GHG emissions, though it does not indicate that local hire requirements would result in reduced construction-related GHG emission for all projects. As previously described, the significance of a local hire requirement depends on the worker trip length enforced and the default worker trip length for the project's urbanization level and location.

2-12 Cont.

[14] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-85.

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Disclaimer

SWAPE has received limited discovery. 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,

M Hagemann

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

Paul Rosenfeld

Paul E. Rosenfeld, Ph.D.

2-12 Cont.

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EXHIBIT B

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

SOIL WATER AIR PROTECTION ENTERPRISE
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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 unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. 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. 2-13

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, 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 dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial 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:

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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. 2-13 Cont.

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 Conference*. 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.

2-13 Cont.

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.

2-13 Cont.

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 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 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

2-13 Cont.

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 Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
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 Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 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 United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

2-13 Cont.

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 of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs*, vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

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EXHIBIT C

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

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Email: mhagemann@swape.com

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

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

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Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. 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) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- 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 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, 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 industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- 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.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

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.

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- 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.

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- 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.

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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. 2-13 Cont.
- 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 taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

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.

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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.

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2-13 Cont.

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__Other Experience:__
Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

2-13 Cont.

EXHIBIT D

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April 12, 2021

Greg Sonstein, Esq.
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155 South El Molino Avenue Suite 104
Pasadena, CA 91101

Subject: Comments on the Pacific Coast Commons Specific Plan (SCH No. 2020050508)

Dear Mr. Sonstein,

We have reviewed the February 2021 Draft Environmental Impact Report ("DEIR") for the Pacific Coast Commons Specific Plan ("Project") located in the City of El Segundo ("City"). The Project proposes to the adoption of a Specific Plan that would allow for the continued operation of 596 hotel rooms and construction of 263 housing units, 11,252-SF of commercial/retail uses, and 792 parking stalls on the 6.385-acre site. 2-14

Our review concludes that the DEIR fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated EIR should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the surrounding environment.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The DEIR's air quality analysis relies on emissions calculated with CalEEMod.2016.3.2 (p. 4.2-1).[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

[1] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.

be justified by substantial evidence. Once all of the 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 Appendix C-1, "CalEEMod Outputs," and Appendix C-2, "Health Risk Assessment Report," to the DEIR, we found that several model inputs were not consistent with information disclosed in the DEIR. As a result, the Project's construction and operational emissions are underestimated. As a result, an updated 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.

Underestimated Land Use Sizes

According to the DEIR, the Project proposes to construct 327,021-SF of residential development, 11,252-SF of commercial/retail uses, and 792 parking spaces (p. 3-2). However, review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" and "Pacific Coast Commons Specific Plan Project Mit" models include only 314,659-SF of residential space, 11,000-SF of commercial/retail space, and 763 parking spaces (see excerpt below) (Appendix C-1, pp. 3, 51, 95; Appendix C-2, pp. 33).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
Enclosed Parking with Elevator	763.00	Space	0.00	305,200.00
Other Asphalt Surfaces	12.65	1000sqft	0.00	12,650.00
High Turnover (Sit Down Restaurant)	3.70	1000sqft	0.00	3,700.00
Apartments Mid Rise	263.00	Dwelling Unit	0.00	314,659.00
Regional Shopping Center	7.30	1000sqft	5.35	7,300.00

As you can see in the excerpt above, the proposed residential, commercial/retail, and parking land uses are underestimated by 12,362-SF, 252-SF, and 29 spaces, respectively. These underestimations present an issue, as the land use type and size features are used throughout CalEEMod to determine default variable and emission factors that go into the model's calculations.[2] For example, the square footage of a land use is used for certain calculations such as determining the wall space to be painted (i.e., VOC emissions from architectural coatings) and volume that is heated or cooled (i.e., energy impacts). Thus, by underestimating the sizes of the proposed residential, commercial/retail, and parking land uses, the models underestimate the Project's emissions and should not be relied upon to determine Project significance.

2-14 Cont.

[2] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01_user-39-s-guide2016-3-1.pdf?sfvrsn=2, p. 17

2

Failure to Model All Required Demolition

According to the CalEEMod User's Guide, "[h]aul trips are based on the amount of material that is demolished, imported or exported assuming a truck can handle 16 cubic yards of material."[3] Therefore, the air model calculates a default number of hauling trips based upon the amount of demolition material inputted into the model. According to the DEIR:

> "During Phase 1, it was assumed that *41,660-SF of buildings* and *6,000-SF of pavement* would require demolition. For Phases 2 and 3, it was assumed that a total of *131,000 square feet of pavement* would require demolition" (p. 4.2-25).

As such, the models should have included at least 178,660-SF of demolition.[4] When correctly inputting 178,660-SF of building demolition, the model calculates a default demolition hauling trip number of 812 trips. However, review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" and the "Pacific Coast Commons Specific Plan Project Mit" models include only 381 total default hauling trips, which were artificially increased to 400 hauling trips (see excerpts below) (Appendix C-1, pp. 13, 61, 105; Appendix C-2, pp. 42).

Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	HaulingTripNumber	189.00	200.00
tblTripsAndVMT	HaulingTripNumber	192.00	200.00

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number
Demolition - Phase 1	6	80.00	20.00	200.00
Site Preparation - Phase 1	7	50.00	10.00	0.00
Grading - Phase 1	6	80.00	10.00	0.00
Building Construction - Phase 1	9	120.00	30.00	0.00
Paving - Phase 1	6	40.00	10.00	0.00
Architectural Coating - Phase 1	1	80.00	20.00	0.00
Demolition - Phases 2 and 3	6	100.00	40.00	200.00
Site Preparation - Phases 2 and 3	7	120.00	20.00	0.00
Grading - Phases 2 and 3	6	160.00	20.00	1,720.00
Building Construction - Phases 2 and 3	9	300.00	60.00	0.00
Paving - Phases 2 and 3	6	80.00	20.00	0.00
Architectural Coating - Phases 2 and 3	1	240.00	40.00	0.00

[3] http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14
[4] Calculated: (41,660-SF of buildings demolition) + (6,000-SF of pavement demolition) + (131,000-SF of pavement demolition) = 178,660-SF of demolition.

3

2-14 Cont.

As you can see in the excerpts above, the *default* number of demolition hauling trips was underestimated by 431 trips.[5] As such, the models fail to include the total amount of demolition required for the Project.

This underestimation presents an issue, as the total amount of demolition material is used by CalEEMod to determine emissions associated with this phase of construction; the three primary operations that generate dust emission during the demolition phase are mechanical or explosive dismemberment, site removal of debris, and on-site truck traffic on paved and unpaved road.[6] By failing to include the total amount of required demolition, the models underestimate emissions associated with fugitive dust, site removal, as well as exhaust from hauling trucks traveling to and from the site, and should not be relied upon to determine the significance of the Project's air quality impacts.

Unsubstantiated Changes to Acres of Grading Values

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" and the "Pacific Coast Commons Specific Plan Project Mit" models include reductions to the default acres of grading values (see excerpt below) (Appendix C-1, pp. 6, 54, 98; Appendix C-2, pp. 36).

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	21.50	0.74
tblGrading	AcresOfGrading	21.00	3.14

As you can see in the excerpt above, the acres of grading values were reduced by approximately 97%, from the default value of 21.5- to 0.74-acres, and 85%, from the default value of 21- to 3.14-acres. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[7] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "17,000 CY of soil export during Phase 2" (Appendix C-1, pp. 4, 52, 96; Appendix C-2, pp. 34). Furthermore, regarding the acres of grading value, the DEIR states: 2-14 Cont.

> "During grading activities, fugitive dust can be generated from the movement of dirt on the Project site. CalEEMod estimates dust from dozers moving dirt around, dust from graders or scrapers leveling the land, and loading or unloading dirt into haul trucks. Each of those activities is calculated differently in CalEEMod, *based on the number of acres traversed by the grading equipment*" (emphasis) (p. 4.2-23).

However, these reductions remain unsupported for two reasons. First, the justification provided by the "User Entered Comments & Non-Default Data" table fails to address the revised acres of grading value. Second, according to the CalEEMod User's Guide:

> "[T]he dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with

[5] Calculated: (812 demolition hauling trips) – (381 trips demolition hauling trips) = 431 demolition hauling trips.
[6] CalEEMod User Guide, Appendix A, p. 11, *available at:* http://www.caleemod.com/
[7] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

equipment may be required. The acres is based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday."[8]

Thus, as the dimensions of the Project site have no impact on the acres of grading value, and the DEIR fails to substantiate this change, we cannot verify the revised acres of grading values.

These unsubstantiated reductions present an issue, as CalEEMod uses the acres of grading value to estimate the dust emissions associated with grading.[9] Thus, by including unsubstantiated reductions to the default acres of grading values, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Material Moisture Content Bulldozing Values

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" and the "Pacific Coast Commons Specific Plan Project Mit" models include several changes to the default material moisture content bulldozing values (see excerpt below) (Appendix C-1, pp. 6, 54, 98; Appendix C-2, pp. 36).

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialMoistureContentBulldozing	7.90	17.00
tblGrading	MaterialMoistureContentBulldozing	7.90	17.00
tblGrading	MaterialMoistureContentBulldozing	7.90	17.00

As you can see in the excerpt above, the material moisture content bulldozing values were increased from the default value of 7.9% to 17%. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[10] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "17,000 CY of soil export during Phase 2" (Appendix C-1, pp. 4, 52, 96; Appendix C-2, pp. 34).

2-14 Cont.

However, this change remains unsupported for two reasons. First, the justification provided by the "User Entered Comments & Non-Default Data" table fails to address the revised material moisture content bulldozing values. Second, the DEIR and associated documents fail to mention or justify these changes whatsoever.

[8] "Appendix A Calculation Details for CalEEMod." *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 9.
[9] "Appendix A Calculation Details for CalEEMod." *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 9.
[10] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

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These unsubstantiated changes present an issue, as CalEEMod uses the material moisture content bulldozing values to calculate the dust emission factor associated with bulldozing.[11] Specifically, CalEEMod utilizes the following equations:[12]

$$EF_{TSP} = \frac{C_{TSP} \times s^{1.2}}{M^{1.3}}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

$$EF_{PM15} = \frac{C_{PM15} \times s^{1.5}}{M^{1.4}}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

Where:

EF = emission factor (lb/hr)
C = arbitrary coefficient used by AP-42
M = material moisture content (%)
S = material silt content (%)
F = scaling factor

As demonstrated above, there is an inverse relationship between material moisture content and dust emission factors. In other words, *when the material moisture content percentage increases, the dust emission factor decreases*. As such, by including unsubstantiated increases to the material moisture content values, the models may underestimate the emissions associated with bulldozing. Thus, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Material Silt Content Values

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" and the "Pacific Coast Commons Specific Plan Project Mit" models include several reductions to the default material silt content values (see excerpt below) (Appendix C-1, pp. 6, 54, 98; Appendix C-2, pp. 36).

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialSiltContent	6.90	3.30
tblGrading	MaterialSiltContent	6.90	3.30
tblGrading	MaterialSiltContent	6.90	3.30
tblGrading	MaterialSiltContent	6.90	3.30

As you can see in the excerpt above, the material silt content values were increased from the default value to 6.9% to 3.3%. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[13] According to the "User Entered Comments & Non-Default Data" table, the

2-14 Cont.

[11] "Appendix A Calculation Details for CalEEMod." *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 10.
[12] "Appendix A Calculation Details for CalEEMod." *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 10.
[13] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

justification provided for these changes is: "17,000 CY of soil export during Phase 2" (Appendix C-1, pp. 4, 52, 96; Appendix C-2, pp. 34).

However, this change remains unsupported for two reasons. First, the justification provided by the "User Entered Comments & Non-Default Data" table fails to address the revised material silt content values. Second, the DEIR and associated documents fail to mention or justify these changes whatsoever.

These unsubstantiated changes present an issue, because CalEEMod uses the material silt content values to calculate the dust emission factor associated with bulldozing.[14] Specifically, CalEEMod utilizes the following equations:[15]

$$EF_{TSP} = \frac{C_{TSP} \times s^{1.2}}{M^{1.3}}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

$$EF_{PM15} = \frac{C_{PM15} \times s^{1.5}}{M^{1.4}}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

Where:
EF = emission factor (lb/hr)
C = arbitrary coefficient used by AP-42
M = material moisture content (%)
S = material silt content (%)
F = scaling factor

As demonstrated above, there is a direct relationship between material silt content and dust emission factors. In other words, ***when the material silt content percentage decreases, the dust emission factor decreases as well***. As such, by including unsubstantiated increases to the material silt content values, the models may underestimate the emissions associated with bulldozing. Thus, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance. 2-14 Cont.

Unsubstantiated Changes to Hauling Trip Numbers

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" model includes several changes to the default hauling trip numbers (see excerpt below) (Appendix C-1, pp. 6-7, 54, 98).

[14] "Appendix A Calculation Details for CalEEMod." *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 10.
[15] "Appendix A Calculation Details for CalEEMod." *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 10.

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Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	HaulingTripNumber	189.00	200.00
tblTripsAndVMT	HaulingTripNumber	192.00	200.00
tblTripsAndVMT	HaulingTripNumber	2,125.00	1,720.00

As you can see in the excerpt above, the number of hauling trips was collectively reduced by 386 trips, from the cumulative default value of 2,506 trips to 2,120 trips.[16] As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[17] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is: "Updated per applicant" (Appendix C-1, pp. 4, 52, 96). Furthermore, the DEIR states:

> "Haul truck trips during the demolition and grading phases were based on demolition and earthwork quantities provided" (p. 4.2-25).

However, these justifications are insufficient, as the DEIR and associated documents fail to provide the calculations or explain how the revised hauling trip numbers were derived "based on demolition and earthwork quantities." As such, we cannot verify the revised hauling trip numbers.

These unsubstantiated changes present an issue, as CalEEMod uses number of hauling trips to estimate the construction-related emissions associated with on-road vehicles.[18] Thus, by including unsubstantiated changes to the default hauling trip numbers, the model may underestimate the Project's mobile-source construction-related emissions and should not be relied upon to determine Project significance.

2-14 Cont.

Unsubstantiated Changes to Architectural and Area Coating Areas

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" and "Pacific Coast Commons Specific Plan Project Mit" models include several reductions to the default architectural and area coating areas (see excerpt below) (Appendix C-1, pp. 5, 52-53, 96-97; Appendix C-2, pp. 34-35).

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	212,395.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	212,395.00	212,213.00
tblArchitecturalCoating	ConstArea_Residential_Interior	637,184.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	637,184.00	636,338.00
tblAreaCoating	Area_Parking	19071	1959

[16] Calculated: (189 + 192 + 2,125 default hauling trips) – (200 + 200 + 1,720 revised hauling trips) = 386 net decrease in hauling trips.
[17] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[18] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 34.

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As you can see in the excerpt above, the architectural coating areas were reduced by 850,607-SF, from the cumulative default value of 1,699,158- to 848,551-SF;[19] and the area coating area for the proposed parking land use was reduced by 17,112-SF, from the default value of 19,701- to 1,959-SF.[20] As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[21] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is: "Updated SF per phase" (Appendix C-1, pp. 4, 52, 96; Appendix C-2, pp. 34). However, these reductions remain unsupported for two reasons.

First, the DEIR and associated documents fail to mention or justify the changes to the construction-related architectural coating areas whatsoever. As such, we cannot verify the revised architectural coating areas.

Second, regarding the operational area coating areas, the DEIR states:

> "*Consistent with CalEEMod defaults*, it is assumed that the residential surface area for painting equals 2.7 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating. For nonresidential land uses (e.g., retail, community, and commercial areas), it is assumed that the surface area for painting equals 2.0 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating. *For the parking garage, the architectural coating area is assumed to be 6% of the total square footage, consistent with the supporting CalEEMod studies provided as an appendix to the CalEEMod User's Guide*" (emphasis added) (p. 4.2-28).

As demonstrated above, the DEIR claims that the Project's area coating areas are consistent with CalEEMod defaults. Thus, as the area coating area was reduced from the default value, the change is unsubstantiated and inconsistent with the information provided in the DEIR. As such, we cannot verify the revised area coating area. 2-14 Cont.

These unsubstantiated reductions present an issue, as CalEEMod uses architectural and area coating areas to calculate ROG emissions associated with painting and reapplication.[22] Thus, by including unsubstantiated reductions to the default architectural and area coating areas, the models may underestimate the Project's area-source emissions and should not be relied upon to determine Project significance.

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[19] Calculated: (212,395-SF + 212,395-SF + 637,184-SF + 637,184-SF default architectural coating areas) – (212,213-SF + 636,338-SF revised architectural coating areas) = 850,607-SF net decrease in architectural coating areas.
[20] 19,70-SF default area coating area –1,959-SF revised area coating area = 17,112-SF net decrease inn area coating area.
[21] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[22] CalEEMod User Guide, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 35, 42.

9

Underestimated Operational Vehicle Trip Rates

According to the Traffic Impact Analysis ("TIA"), provided in Appendix J-1 to the DEIR, the Project is expected to generate approximately 2,517 average daily vehicle trips (see excerpt below) (p. 30, Table 4).

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Daily
			Daily	AM Peak Hour			PM Peak Hour			
				Rate	In%	Out%	Rate	In%	Out%	
PROPOSED PROJECT										
Pacific Coast Commons North										
Residential Units [b]	221	143 DU	Equation	Equation	24%	76%	Equation	61%	39%	778
Less: Transit/Walk/Bike			*5%*	*5%*			*5%*			*(39)*
Total Driveway Trips										739
Retail	820	2.223 ksf	37.75	0.94	62%	38%	3.81	48%	52%	84
Less: Transit/Walk/Bike			*5%*	*5%*			*5%*			*(4)*
Total Driveway Trips										80
Fairfield Parking										
Retail	820	3.273 ksf	37.75	0.94	62%	38%	3.81	48%	52%	124
Less: Transit/Walk/Bike			*5%*	*5%*			*5%*			*(6)*
Total Driveway Trips										118
Pacific Coast Commons South										
Residential Units [b]	221	120 DU	Equation	Equation	24%	76%	Equation	61%	39%	652
Less: Transit/Walk/Bike			*5%*	*5%*			*5%*			*(33)*
Total Driveway Trips										619
Retail	820	2.056 ksf	37.75	0.94	62%	38%	3.81	48%	52%	78
Less: Transit/Walk/Bike			*5%*	*5%*			*5%*			*(4)*
Total Driveway Trips										74
Fast Casual Restaurant [c]	930	3.700 ksf	315.17	14.13	55%	45%	14.13	55%	45%	1,166
Less: Transit/Walk/Bike			*5%*	*5%*			*5%*			*(58)*
Total Driveway Trips										1,108
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(221)*
Net External Vehicle Trips										887
TOTAL PROJECT EXTERNAL VEHICLE TRIPS										2,517

As such, the models should have included trip rates that reflect the number of average daily operational vehicle trips estimated by the TIA. However, review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" model includes only 2,506.08 weekday and 2,271.19 Saturday vehicle trips (see excerpt below) (Appendix C-1, pp. 42, 90, 134).

Land Use	Average Daily Trip Rate		
	Weekday	Saturday	Sunday
Apartments Mid Rise	1,357.08	1,304.48	1196.65
Enclosed Parking with Elevator	0.00	0.00	0.00
High Turnover (Sit Down Restaurant)	887.00	1,104.78	919.71
Other Asphalt Surfaces	0.00	0.00	0.00
Regional Shopping Center	262.00	306.60	154.83
Total	2,506.08	2,715.86	2,271.19

As you can see in the excerpt above, the weekday and Sunday trip numbers are underestimated by approximately 11- and 246-trips, respectively. As such, the trip rates inputted into the proposed land use models are underestimated and inconsistent with the information provided by the TIA.

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2-14 Cont.

These inconsistencies present an issue, as CalEEMod uses the operational vehicle trip rates to calculate the emissions associated with the Project's operational on-road vehicles.[23] Thus, by including underestimated operational vehicle trip rates, the model underestimates the Project's mobile-source operational emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Energy Use Values

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" model includes several reductions to the default energy use values (see excerpt below) (Appendix C-1, pp. 5-6, 53, 97).

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	179.76	176.16
tblEnergyUse	T24E	3.92	3.50
tblEnergyUse	T24E	8.71	7.78
tblEnergyUse	T24E	2.93	2.62
tblEnergyUse	T24NG	5,911.46	5,615.89
tblEnergyUse	T24NG	78.56	77.77
tblEnergyUse	T24NG	0.95	0.94

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[24] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is: "Assume compliance with 2019 Title 24 Standards" (Appendix C-1, pp. 4, 52, 96). Furthermore, regarding 2019 Title 24 Standards, the DEIR states: 2-14 Cont.

> "CalEEMod assumes compliance with the 2016 Title 24 Building Energy Efficiency Standards. The default values were updated to reflect the more stringent 2019 Title 24 Building Energy Efficiency Standards, which became effective on January 1, 2020" (p. 4.2-28).

However, these justifications are insufficient. Simply because the 2019 Title 24 standards ***expect*** a reduction in building energy consumption does not ***guarantee*** that these reductions would be implemented locally on the Project site. Absent additional information demonstrating that these reductions would be achieved through the implementation, monitoring, and enforcement of energy-related mitigation measures, we are unable to verify the revised energy use values inputted into the model.

These unsubstantiated reductions present an issue, as CalEEMod uses the energy use values to calculate the Project's emissions associated with building electricity and non-hearth natural gas usage.[25] By including unsubstantiated changes to the default energy use values, the model may underestimate the Project's energy-source operational emissions and should not be relied upon to determine Project significance.

[23] "CalEEMod User Guide." CAPCOA, November 2017, *available at:* http://www.caleemod.com/, p. 35.
[24] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[25] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 43

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Unsubstantiated Changes to Wastewater Treatment System Percentages

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" model includes several manual changes to the default wastewater system percentages (see excerpt below) (Appendix C-1, pp. 8, 55-56, 99-100).

Table Name	Column Name	Default Value	New Value
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

As you can see in the excerpt above, the model assumes that the Project's wastewater would be treated 100% aerobically. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[26] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is: "Assume 100% aerobic" (Appendix C-1, pp. 4, 52, 96). However, these changes remain unsupported. According to the DEIR: 2-14 Cont.

> "Water consumption estimates for both indoor and outdoor water use and *associated electricity consumption from water use and wastewater generation were estimated using default values in CalEEMod*" (p. 4.6-27).

As demonstrated above, the DEIR claims that the electricity consumption from wastewater generation was estimated using the CalEEMod default values. Thus, the changes to the wastewater treatment system percentages are unsubstantiated and inconsistent with the information provided in the DEIR. As such, we cannot verify the revised values.

These inconsistencies present an issue, as each type of wastewater treatment system is associated with different GHG emission factors, which are used by CalEEMod to calculate the Project's total GHG emissions.[27] Thus, by including unsubstantiated changes to the default wastewater treatment system percentages, the model may underestimate the Project's GHG emissions and should not be relied upon to determine Project significance.

[26] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[27] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 45.

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Incorrect Application of Construction-Related Mitigation Measures

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" model includes the following construction-related mitigation measures (see excerpt below) (Appendix C-1, pp. 14, 62, 106):

3.1 Mitigation Measures Construction

Replace Ground Cover
Water Exposed Area

Furthermore, review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project Mit" model includes the following construction-related mitigation measure (see excerpt below) (Appendix C-2, pp. 43):

3.1 Mitigation Measures Construction

Water Exposed Area

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[28] According to the "User Entered Comments and Non-Default Data" table for the "Pacific Coast Commons Specific Plan Project" model, the justification provided for the inclusion of these measures is: "Water three times daily and replace ground cover" (Appendix C-1, pp. 4, 52, 96). However, no justification was provided by the "User Entered Comments and Non-Default Data" table for the "Pacific Coast Commons Specific Plan Project Mit" model. Furthermore, the DEIR states: 2-14 Cont.

> "The proposed Project would be required to comply with SCAQMD Rule 403 to control dust emissions generated during the grading activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites three times per day depending on weather conditions" (p. 4.2-34).

However, the inclusion of the above-mentioned construction-related mitigation measures remains unsupported. Simply because the DEIR states that the Project would comply with SCAQMD Rule 403 does not justify the inclusion of the above-mentioned construction-related mitigation measures in the models. According to the Association of Environmental Professionals ("AEP") *CEQA Portal Topic Paper* on mitigation measures:

> "By definition, *mitigation measures are not part of the original project design*. Rather, mitigation measures are actions taken by the lead agency to reduce impacts to the environment resulting from the original project design. Mitigation measures are identified by the lead agency after the

[28] CalEEMod User Guide, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 2, 9.

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project has undergone environmental review and are ***above-and-beyond existing laws, regulations, and requirements*** that would reduce environmental impacts" (emphasis added).[29]

As you can see in the excerpt above, mitigation measures "are not part of the original project design" and are intended to go "above-and-beyond" existing regulatory requirements. As such, the inclusion of these measures, based solely on the Project's compliance with SCAQMD Rule 403, is unsubstantiated. By including construction-related mitigation measures without properly committing to their implementation, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Incorrect Application of Mobile-Related Operational Mitigation Measures

Review of the CalEEMod output files demonstrates that the "Pacific Coast Commons Specific Plan Project" model includes the following mobile-, water-, and waste-related operational mitigation measures (see excerpt below) (Appendix C-1, pp. 42, 47, 49, 90, 134):

Mobile-Related:

4.1 Mitigation Measures Mobile

Improve Destination Accessibility
Increase Transit Accessibility
Improve Pedestrian Network

Water-Related:

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Waste-Related:

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[30] According to the "User Entered Comments and Non-Default Data" table, the justifications provided for the inclusion of the mobile-, water-, and waste-related measures are: "Increase transit accessibility (0.2 miles) and improve pedestrian network," "Reduce water consumption by 20% per CalGreen," and "Assume 50% waste disposed per AB 939" (Appendix C-1, pp. 4, 52, 96). However, the inclusion of these operational mitigation measures remains unsupported for three reasons.

2-14 Cont.

[29] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 5.

[30] CalEEMod User Guide, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 2, 9.

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First, the DEIR fails to mention or justify the inclusion of the above-mentioned operational mitigation measures.

Second, the inclusion of these operational mitigation measures, based on the Project's compliance with existing policies and regulations, is unsupported. As previously stated, according to the AEP *CEQA Portal Topic Paper* on mitigation measures:

> "By definition, *mitigation measures are not part of the original project design*. Rather, mitigation measures are actions taken by the lead agency to reduce impacts to the environment resulting from the original project design. Mitigation measures are identified by the lead agency after the project has undergone environmental review and are *above-and-beyond existing laws, regulations, and requirements* that would reduce environmental impacts" (emphasis added).[31]

As you can see in the excerpt above, mitigation measures "are not part of the original project design" and are intended to go "above-and-beyond" existing regulatory requirements. As such, the inclusion of these measures, based solely on the Project's compliance with existing policies and regulations, is unsubstantiated.

Third, AEP guidance states:

> "While not "mitigation", a good practice is *to include those project design feature(s) that address environmental impacts in the mitigation monitoring and reporting program (MMRP)*. Often the MMRP is all that accompanies building and construction plans through the permit process. If the design features are not listed as important to addressing an environmental impact, *it is easy for someone not involved in the original environmental process to approve a change to the project that could eliminate one or more of the design features without understanding the resulting environmental impact*" (emphasis added).[32]

2-14 Cont.

As you can see in the excerpts above, design features that are not formally included as mitigation measures may be eliminated from the Project's design altogether. Thus, as the above-mentioned mobile-, water-, and waste-related operational measures are not formally included as mitigation measures, we cannot guarantee that they would be implemented, monitored, and enforced on the Project site. As a result, the inclusion of the above-mentioned operational mitigation measures in the model is incorrect. By including several operational mitigation measures without properly committing to their implementation, the model may underestimate the Project's operational emissions and should not be relied upon to determine Project significance.

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The DEIR concludes that the proposed Project would result in a less-than-significant health risk impact based on a quantified construction health risk analysis ("HRA"). Specifically, the DEIR estimates that

[31] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 5.
[32] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 6.

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Project construction would result in a mitigated excess cancer risk of 4.23 in one million, which would not exceed the threshold of 10 in one million (see excerpt below) (p. 4.2-38, Table 4.2-13).

Table 4.2-13. Summary of Maximum Cancer and Chronic Health Risks - Mitigated

Impact Analysis	Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Maximally Exposed Individual Resident					
Construction HRA	Cancer Risk	Per Million	4.23	10	Less than Significant
	Chronic Hazard Index	Index Value	0.002	1.0	Less than Significant

Source: See Appendix C-2 for complete results.
Notes: CEQA = California Environmental Quality Act; HRA = Health Risk Assessment

However, the DEIR's evaluation of the Project's potential health risk impacts, as well as the less-than-significant impact conclusion, is incorrect for three reasons.

First, the DEIR's construction HRA is incorrect, as it relies upon an exhaust PM_{10} estimate from a flawed air model (Appendix C-2, p. 9). As previously discussed, when we reviewed the Project's CalEEMod output files, provided in the CalEEMod Outputs as Appendix C-1 and the HRA Report as Appendix C-2 to the DEIR, we found that several of the values inputted into the model are not consistent with information disclosed in the DEIR and associated documents. As a result, the construction HRA utilizes an underestimated diesel particulate matter ("DPM") concentration to calculate the cancer risk associated with Project construction. As such, the DEIR underestimates the Project's construction-related cancer risk and should not be relied upon to determine Project significance.

Second, the DEIR fails to evaluate the Project's operational toxic air contaminants ("TACs") and associated health risk impacts. This is incorrect, as the TIA indicates that the proposed land uses are expected to generate approximately 2,517 average daily vehicle trips, which will generate additional exhaust emissions and continue to expose nearby sensitive receptors to DPM emissions (p. 30, Table 4). The DEIR fails to discuss the potential TACs associated with Project operation or indicate the concentrations at which such pollutants would trigger adverse health effects. Without making a reasonable effort to connect the Project's operational TAC emissions to the potential health risks posed to nearby receptors, the DEIR is inconsistent with CEQA's requirement to correlate the increase in emissions generated by the Project with the potential adverse impacts on human health. 2-14 Cont.

Third, the Office of Environmental Health Hazard Assessment ("OEHHA"), the organization responsible for providing guidance on conducting HRAs in California, released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015, as referenced by HRA Report (Appendix C-2, p. 7).[33] The OEHHA document recommends that exposure from projects lasting more than 6 months be evaluated for the duration of the project and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident ("MEIR").[34] Even though we were not provided with the expected lifetime of

[33] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/hotspots2015.html
[34] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-6, 8-15

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the Project, we can reasonably assume that the Project will operate for at least 30 years, if not more. Therefore, we recommend that health risk impacts from Project operation also be evaluated, as a 30-year exposure duration vastly exceeds the 6-month requirement set forth by OEHHA. This recommendation reflects the most recent state health risk policies, and as such, we recommend that an analysis of health risk impacts posed to nearby sensitive receptors from Project operation be included in an updated EIR for the Project.

Fourth, while the DEIR includes an HRA evaluating the potential health risk impacts posed by Project construction to nearby, existing receptors, the HRA fails to evaluate the *cumulative* lifetime cancer risk to nearby, existing receptors as a result of all phases of Project *construction and operation together*. According to OEHHA guidance, as referenced by the HRA Report, "the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk at the receptor location" (Appendix C-2, p. 7).[35] However, the DEIR's HRA fails to sum each age bin to evaluate the total cancer risk over the course of Project construction and operation. This is incorrect and, thus, an updated EIR should be prepared to quantify the cumulative excess cancer risk posed by Project construction and operation to nearby, existing receptors, and compare it to the SCAQMD threshold of 10 in one million.

Screening-Level Assessment Indicates a 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.[36] The model replaced SCREEN3, and AERSCREEN is included in the OEHHA[37] and the California Air Pollution Control Officers Associated (CAPCOA)[38] guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs"). 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. 2-14 Cont.

We prepared a preliminary HRA of the Project's operational health risk impact to sensitive receptors using the annual PM_{10} exhaust estimates from the DEIR's annual CalEEMod output files, consistent with the HRA Report's methodology (Appendix C-2, p. 9). Consistent with recommendations set forth by OEHHA, we used a residential exposure duration of 30 years, starting from the 3rd trimester stage of life. Subtracting the 1,034-day construction period from the total residential duration of 30 years, we assumed that after Project construction, the sensitive receptor would be exposed to the Project's operational DPM for an additional 27.17 years, approximately. The DEIR's CalEEMod model indicates that operational activities will generate approximately 87 pounds of DPM per year of operation. The AERSCREEN model relies on a continuous average emission rate to simulate maximum downward

[35] "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
[36] U.S. EPA (April 2011) AERSCREEN Released as the EPA Recommended Screening Model, http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf
[37] Supra, fn 20.
[38] CAPCOA (July 2009) Health Risk Assessments for Proposed Land Use Projects, http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.

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concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over Project operation, we calculated an average DPM emission rate by the following equation.

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{87.4\ lbs}{365\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.00126\ g/s}$$

Using this equation, we estimated an operational emission rate of 0.00126 g/s. Operation was simulated as a 6.39-acre rectangular area source in AERSCREEN, with dimensions of 256 meters by 101 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 AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project Site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant to be estimated by multiplying the single-hour concentration by 10%.[39] According to the HRA Report, the closest residential receptors are located 25 feet west of the Project site (Appendix C-2, p. 1). However, review of the AERSCREEN output files demonstrates that the *maximally* exposed receptor is located approximately 125 meters from the Project site. Thus, for Project operation, the single-hour concentration at the MEIR estimated by AERSCREEN is approximately 1.937µg/m^3 DPM at approximately 125 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.1937 µg/m^3 for Project operation at the MEIR.

2-14 Cont.

We calculated the excess cancer risk to the MEIR using applicable HRA methodologies prescribed by OEHHA. Consistent with the construction period of 1,034 days inputted into the DEIR's CalEEMod model, the annualized average concentration for Project operation was used for the remaining 13.42 years of the child stage of life (2 - 16 years) and the entire adult stage of life (16 – 30 years).

Consistent with the HRA Report's methodology, we used Age Sensitivity Factors ("ASFs") to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution (Appendix C-2, p. 7). When applying ASFs, the quantified cancer risk should be multiplied by a factor of ten during the third trimester of pregnancy and during the first two years of life (infant), as well as multiplied by a factor of three during the child stage of life (2 – 16 years). Furthermore, in accordance with the guidance set forth by OEHHA, we used the 95th percentile breathing rates for infants.[40] Finally, according to SCAQMD guidance, we used a Fraction of Time At Home ("FAH") Value of 1 for the 3rd trimester and

[39] U.S. EPA (October 1992) Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised, http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf.
[40] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act," July 2018, *available at:* http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588supplementalguidelines.pdf, p. 16.
"Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

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infant receptors.[41] We used a cancer potency factor of 1.1 $(mg/kg\text{-}day)^{-1}$ and an averaging time of 25,550 days. The results of our calculations are shown below.

The Maximum Exposed Individual at an Existing Residential Receptor (MEIR)

Activity	Duration (years)	Concentration (ug/m3)	Breathing Rate (L/kg-day)	ASF	Cancer Risk with ASFs*
Total Construction	**2.83**				**4.2E-06**
Operation	13.42	0.1937	572	3	6.7E-05
Child Exposure Duration	***13.42***			***Child Exposure***	***6.7E-05***
Operation	14.00	0.1937	261	1	7.8E-06
Adult Exposure Duration	***14.00***			***Adult Exposure***	***7.8E-06***
Lifetime Exposure Duration	**30.25**			**Lifetime Exposure**	**7.9E-05**

As demonstrated in the table above, the excess cancer risk to adults and children at the MEIR located approximately 125 meters away, over the course of Project operation, utilizing ASFs, are approximately 7.8 and 67 in one million, respectively. When summing the Project's estimated operational cancer risks, as estimated by SWAPE, with the DEIR's purported construction-related cancer risk of 4.23 in one million, we estimate a lifetime excess cancer risk of approximately 79 in one million (p. 18). Thus, the child and lifetime cancer risks exceed the SCAQMD threshold of 10 in one million, resulting in a potentially significant impact not previously addressed or identified by the DEIR. 2-14 Cont.

An agency must include an analysis of health risks that connects the Project's air emissions with the health risk posed by those emissions. Our analysis represents a screening-level HRA, which is known to be conservative and tends to err on the side of health protection. The purpose of the screening-level construction and operational HRA shown above is to demonstrate the link between the proposed Project's emissions and the potential health risk. Our screening-level HRA demonstrates that construction and operation of the Project could result in a potentially significant health risk impact, when correct exposure assumptions and up-to-date, applicable guidance are used. Therefore, since our screening-level construction HRA indicates a potentially significant impact, an updated EIR should include a reasonable effort to connect the Project's air quality emissions and the potential health risks posed to nearby receptors. Thus, an updated EIR should include a quantified air pollution model as well as an updated, quantified refined health risk assessment which adequately and accurately evaluates health risk impacts associated with both Project construction and operation.

[41] "Risk Assessment Procedures for Rules 1401, 1401.1, and 212," SCAQMD, August 2017, *available at:* http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.

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Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Emissions

The DEIR estimates that the Project would generate net annual greenhouse gas ("GHG") emissions of 2,920.96 metric tons of carbon dioxide equivalents per year ("MT CO_2e/year"), which would not exceed the SCAQMD bright-line threshold of 3,000 MT CO_2e/year (p. 4.6-28 – 4.6-29, Table 4.6-4).

Table 4.6-4. Estimated Operational Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area	4.45	<0.01[a]	0.00	4.56
Energy (natural gas and electricity)	951.51	0.03	0.01	955.38
Mobile	1,764.82	0.08	0.00	1,766.93
Solid waste	17.53	1.04	0.00	43.42
Water supply and wastewater	80.60	0.02	0.01	84.77
Construction (amortized over 30 years)	—	—	—	65.90
			Total Emissions	**2,920.96**
			SCAQMD GHG Threshold	3,000
			Exceeds thresholds?	**No**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrogen dioxide; CO_2e = carbon dioxide equivalent.
See Appendix C-1 for complete results.
Proposed Project GHG emissions are based on the "mitigated" CalEEMod outputs, which includes reduction in indoor and outdoor water consumption, consistent with CALGreen and compliance with the AB 939 waste reduction goal.
[a] <0.01 = value less than reported 0.01 metric tons per year.

Furthermore, the DEIR relies upon the Project's consistency with the City of El Segundo Climate Action Plan ("CAP"), SCAG's 2020-2045 *RTP/SCS*, CALGreen, CARB's *Scoping Plan*, and the General Plan's Air Quality Element, as well as EO S-3-05 and SB 32, in order to conclude that the Project would result in a less-than-significant GHG impact (p. 4.6-29 - 4.6-48). However, the DEIR's GHG analysis, as well as the subsequent less-than-significant impact conclusion, is incorrect for five reasons. 2-14 Cont.

(1) The DEIR's quantitative GHG analysis relies upon an incorrect and unsubstantiated air model;
(2) The DEIR's quantitative GHG analysis relies upon an outdated threshold;
(3) The DEIR's unsubstantiated air model indicates a potentially significant impact;
(4) The DEIR fails to consider the performance-based standards under CARB's *Scoping Plan*; and
(5) The DEIR fails to consider the performance-based standards under SCAG's *RTP/SCS*.

1) Incorrect and Unsubstantiated Quantitative Analysis of Emissions

As previously stated, the DEIR estimates that the Project would generate net annual GHG emissions of 2,920.96 MT CO_2e/year (p. 4.6-28 – 4.6-29, Table 4.6-4). However, the DEIR's quantitative GHG analysis is unsubstantiated. As previously discussed, when we reviewed the CalEEMod Outputs, provided as Appendix C-1 to the DEIR, we found that several of the values inputted into the model are not consistent with information disclosed in the DEIR. As a result, the model underestimates the Project's emissions, and the DEIR's quantitative GHG analysis should not be relied upon to determine Project significance. An updated EIR should be prepared that adequately assesses the potential GHG impacts that construction and operation of the proposed Project may have on the surrounding environment.

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2) Incorrect Reliance on an Outdated Quantitative GHG Threshold

As previously discussed, the DEIR estimates that the Project would generate net annual GHG emissions 2,920.96 MT CO_2e/year, which would not exceed the SCAQMD bright-line threshold of 3,000 MT CO_2e/year (p. 4.6-28 – 4.6-29, Table 4.6-4). However, the guidance that provided the 3,000 $MTCO_2$/year threshold, the SCAQMD's 2008 *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans* report, was developed when the Global Warming Solutions Act of 2006, commonly known as "AB 32", was the governing statute for GHG reductions in California. AB 32 requires California to reduce GHG emissions to 1990 levels by 2020.[42] As it is already April 2021, thresholds for 2020 are not applicable to the proposed Project. As such, the SCAQMD bright-line threshold of 3,000 MT CO_2e/year is outdated and inapplicable to the proposed Project, and the DEIR's less-than-significant GHG impact conclusion should not be relied upon.

Instead, we recommend that the Project apply the widely-used 2030 "Substantial Progress" threshold of 660 MT CO_2e/year[43] and AEP's "2030 Land Use Efficiency Threshold" of 2.6 metric tons of CO_2 equivalents per service population per year ("MT CO_2e/SP/year").[44] In support of thresholds for projects with a horizon year beyond 2020, AEP's guidance *states:*

> "Once the state has a full plan for 2030 (which is expected in 2017), and then *a project with a horizon between 2021 and 2030 should be evaluated based on a threshold using the 2030 target*. A more conservative approach would be to apply a 2030 threshold *based on SB 32* for any project with a horizon between 2021 and 2030 regardless of the status of the Scoping Plan Update" (emphasis added).[45]

As the California Air Resources Board ("CARB") adopted *California's 2017 Climate Change Scoping Plan* in November of 2017, the proposed Project "should be evaluated based on a threshold using the 2030 target," according to the relevant guidance referenced above. We recommend the preparation of an updated EIR to compare the Project's estimated GHG emissions, as estimated in an updated air model,

2-14 Cont.

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[42] HEALTH & SAFETY CODE 38550, *available at:* https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=38550.

[43] See: "JEFFERSON UNION HIGH SCHOOL DISTRICT FACULTY & STAFF HOUSING PROJECT AIR QUALITY & GREENHOUSE GAS ASSESSMENT." City of Daly City, June 2019, *available at:* https://files.ceqanet.opr.ca.gov/257215-2/attachment/k-aC8VdC7LV3xz75yuUmtGiiExH-Y7HEPQ-dU-YlxuhNp95Dx9bK_TbVP3sWar00-Zx87dh7ji80vbRH0, p. 7; "TO 20-01 PAPÉ MACHINERY AIR QUALITY & GREENHOUSE GAS EMISSIONS ASSESSMENT." City of Fremont, February 2020, *available at:* "SOLAR4AMERICA ICE FACILITY EXPANSION AIR QUALITY AND GREENHOUSE GAS EMISSION ASSESSMENT." City of San Jose, September 2019, *available at:* https://www.fremont.gov/DocumentCenter/View/44974/4_Appendix-1_Air-Quality-GHG-Assessment, p. 18; and https://www.sanjoseca.gov/Home/ShowDocument?id=45200, p. 6.

[44] "Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California." Association of Environmental Professionals (AEP), October 2016, *available at:* https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf, p. 40.

[45] "Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California." Association of Environmental Professionals (AEP), October 2016, *available at:* https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf, p. 40.

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to the widely-used 2030 "Substantial Progress" threshold of 660 MT CO_2e/year[46] and AEP's "2030 Land Use Efficiency Threshold" of 2.6 MT CO_2e/SP/year.

3) Failure to Identify a Potentially Significant GHG Impact

When applying the widely-used 2030 "Substantial Progress" threshold of 660 MT CO_2e/year[47] and AEP "2030 Land Use Efficiency Threshold" of 2.6 MT CO_2e/SP/year,[48] the DEIR's incorrect and unsubstantiated air model indicates a potentially significant GHG impact.[49] As previously stated, the DEIR estimates that the Project would generate net annual GHG emissions of 2,920.96 MT CO_2e/year (p. 4.6-28 – 4.6-29, Table 4.6-4). Furthermore, according to CAPCOA's *CEQA & Climate Change* report, service population is defined as "the sum of the number of residents and the number of jobs supported by the project."[50] The DEIR estimates that the Project would house and employ approximately 618 residents and 56 employees, respectively, resulting in a service population of 674 people (p. IV.G-17, Table IV.G-4; IV.G-19, Table IV.G-5).[51] When dividing the Project's GHG emissions, as estimated by the DEIR, by a service population of 674 people, we find that the Project would emit approximately 4.3 MT CO_2e/SP/year (see table below).[52]

[46] See: "JEFFERSON UNION HIGH SCHOOL DISTRICT FACULTY & STAFF HOUSING PROJECT AIR QUALITY & GREENHOUSE GAS ASSESSMENT." City of Daly City, June 2019, *available at:* https://files.ceqanet.opr.ca.gov/257215-2/attachment/k-aC8VdC7LV3xz75yuUmtGiiExH-Y7HEPQ-dU-YIxuhNp95Dx9bK_TbVP3sWar00-Zx87dh7ji80vbRH0, p. 7; "TO 20-01 PAPÉ MACHINERY AIR QUALITY & GREENHOUSE GAS EMISSIONS ASSESSMENT." City of Fremont, February 2020, *available at:* "SOLAR4AMERICA ICE FACILITY EXPANSION AIR QUALITY AND GREENHOUSE GAS EMISSION ASSESSMENT." City of San Jose, September 2019, *available at:* https://www.fremont.gov/DocumentCenter/View/44974/4_Appendix-1_Air-Quality-GHG-Assessment, p. 18; and https://www.sanjoseca.gov/Home/ShowDocument?id=45200, p. 6.

[47] See: "JEFFERSON UNION HIGH SCHOOL DISTRICT FACULTY & STAFF HOUSING PROJECT AIR QUALITY & GREENHOUSE GAS ASSESSMENT." City of Daly City, June 2019, *available at:* https://files.ceqanet.opr.ca.gov/257215-2/attachment/k-aC8VdC7LV3xz75yuUmtGiiExH-Y7HEPQ-dU-YIxuhNp95Dx9bK_TbVP3sWar00-Zx87dh7ji80vbRH0, p. 7; "TO 20-01 PAPÉ MACHINERY AIR QUALITY & GREENHOUSE GAS EMISSIONS ASSESSMENT." City of Fremont, February 2020, *available at:* "SOLAR4AMERICA ICE FACILITY EXPANSION AIR QUALITY AND GREENHOUSE GAS EMISSION ASSESSMENT." City of San Jose, September 2019, *available at:* https://www.fremont.gov/DocumentCenter/View/44974/4_Appendix-1_Air-Quality-GHG-Assessment, p. 18; and https://www.sanjoseca.gov/Home/ShowDocument?id=45200, p. 6.

[48] "Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California." Association of Environmental Professionals (AEP), October 2016, *available at:* https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf, p. 40.

[49] "Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California." Association of Environmental Professionals (AEP), October 2016, *available at:* https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf, p. 40.

[50] CAPCOA (Jan. 2008) CEQA & Climate Change, p. 71-72, http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf.

[51] Calculated: 618 residents + 56 employees = 674 service population.

[52] Calculated: (2,920.96 MT CO_2e/year) / (674 service population) = (4.3 MT CO_2e/SP/year).

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2-14 Cont.

DEIR Modeling Greenhouse Gas Emissions	
Project Phase	**Proposed Project (MT CO_2e/year)**
Net Annual GHG Emissions	**2,921**
Threshold	660
Exceed?	***Yes***
Service Population	674
Service Population Efficiency	**4.3**
Threshold	2.6
Exceed?	***Yes***

As demonstrated above, the Project's net annual GHG emissions and service population efficiency, as estimated by the DEIR, exceed the 2030 "Substantial Progress" threshold of 660 MT CO_2e/SP/year and AEP's "2030 Land Use Efficiency Threshold" of 2.6 MT CO_2e/SP/year, respectively. As a result, the DEIR's less-than-significant GHG impact conclusion should not be relied upon. An updated EIR should be prepared for the Project and mitigation measures should be implemented to reduce the Project's GHG emissions to less-than-significant levels.

4) Failure to Consider Performance-based Standards Under CARB's 2017 Scoping Plan

As previously discussed, the DEIR relies upon the Project's consistency with CARB's 2017 *Scoping Plan* to determine Project GHG significance (p. 4.6-41 – 4.6-45). However, this is incorrect, as the DEIR fails to consider performance-based measures proposed by CARB. 2-14 Cont.

i. Passenger & Light Duty VMT Per Capita Benchmarks per SB 375

In reaching the State's long-term GHG emission reduction goals, CARB's 2017 *Scoping Plan* explicitly cites to SB 375 and the VMT reductions anticipated under the implementation of Sustainable Community Strategies.[53] CARB has identified the population and daily VMT from passenger autos and light-duty vehicles at the state and county level for each year between 2010 to 2050 under a "baseline scenario" that includes "current projections of VMT included in the existing Regional Transportation Plans/Sustainable Communities Strategies (RTP/SCSs) adopted by the State's 18 Metropolitan Planning Organizations (MPOs) pursuant to SB 375 as of 2015."[54] By dividing the projected daily VMT by the population, we calculated the daily VMT per capita for each year at the state and county level for 2010 (baseline year), 2025 (Project operational year), and 2030 (target years under SB 32) (see table below and Attachment B).

[53] "California's 2017 Climate Change Scoping Plan." CARB, November 2017, *available at*: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf, p. 25, 98, 101-103.
[54] "Supporting Calculations for 2017 Scoping Plan-Identified VMT Reductions," Excel Sheet "Readme." CARB, January 2019, *available at*: https://ww2.arb.ca.gov/sites/default/files/2019-01/sp_mss_vmt_calculations_jan19_0.xlsx.

2017 Scoping Plan Daily VMT Per Capita						
	Los Angeles County			State		
Year	Population	LDV VMT Baseline	VMT Per Capita	Population	LDV VMT Baseline	VMT Per Capita
2010	9,838,771	216,979,221.64	22.05	37,335,085	836,463,980.46	22.40
2025	10,671,800	217,340,094.90	20.37	42,326,397	929,443,512.65	21.96
2030	10,868,614	215,539,586.12	19.83	43,939,250	957,178,153.19	21.78

The below table compares the 2017 *Scoping Plan* daily VMT per capita values against the daily VMT per capita values for the Project based on SWAPE's updated modeling (see table below and Attachment B).

Daily VMT Per Capita from Passenger & Light-Duty Trucks, Exceedances under 2017 Scoping Plan Performance-Based SB 375 Benchmarks	
Sources	**Project**
	SWAPE Modeling
Annual VMT from Auto & Light-Duty Vehicles	5,937,594
Daily VMT from Auto & Light-Duty Vehicles	16,267
Service Population	674
Daily VMT Per Capita	24.14
2017 Scoping Plan Benchmarks, Statewide	
22.40 VMT (2010 Baseline) Exceed?	**Yes**
21.96 VMT (2025 Projected) Exceed?	**Yes**
21.78 VMT (2030 Projected) Exceed?	**Yes**
2017 Scoping Plan Benchmarks, Los Angeles County Specific	
22.05 VMT (2010 Baseline) Exceed?	**Yes**
20.37 VMT (2025 Projected) Exceed?	**Yes**
19.83 VMT (2030 Projected) Exceed?	**Yes**

As shown above, SWAPE's updated modeling shows that the Project exceeds the CARB 2017 *Scoping Plan* projections for 2010, 2025, and 2030. Because the exceeds the CARB 2017 *Scoping Plan* performance-based daily VMT per capita projections, the Project conflicts with the CARB 2017 *Scoping Plan* and SB 375. As such, the DEIR's claim that the proposed Project would not conflict with the CARB 2017 *Scoping Plan* is unsupported. Project-specific EIR should be prepared for the proposed Project to provide additional information and analysis to conclude less-than-significant GHG impacts.

5) Failure to Consider Performance-based Standards under SCAG's RTP/SCS

Here, as discussed above, the DEIR concludes that the Project would be consistent with SCAG's *RTP/SCS* (p. 4.6-34 – 4.6-37). However, the DEIR fails to consider whether or not the Project meets any of the specific performance-based goals underlying SCAG's *RTP/SCS* and SB 375, such as: i) per capita GHG emission targets, or ii) daily vehicles miles traveled ("VMT") per capita benchmarks.

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2-14 Cont.

i. SB 375 Per Capita GHG Emission Goals

SB 375 was signed into law in September 2008 to enhance the state's ability to reach AB 32 goals by directing CARB to develop regional 2020 and 2035 GHG emission reduction targets for passenger vehicles (autos and light-duty trucks). In March 2018, CARB adopted updated regional targets requiring a 19 percent decrease in VMT for the SCAG region by 2035. This goal is reflected in SCAG's 2020 RTP/SCS Program Environmental Impact Report ("PEIR"),[55] in which the 2020 RTP/SCS PEIR updates the per capita emissions to 18.8 lbs/day in 2035 (*see* excerpt below).[56]

Table 3.8-10
SB 375 Analysis

	2005 (Baseline)	2020 (Plan)	2035 (Plan)
Resident population (per 1,000)	17,161	19,194	21,110
CO2 emissions (per 1,000 tons)	204.0/a/	204.5/b/	198.6/b/
Per capita emissions (pounds/day)	23.8	21.3	18.8
% difference from Plan (2020) to Baseline (2005)			–8%
% difference from Plan (2035) to Baseline (2005)			–19%/c/

Note:
/a/ Based on EMFAC2007
/b/Based on EMFAC2014 and SCAG modeling, 2019.
/c/ Includes off-model adjustments for 2035 and 2045
Source: SCAG modeling, 2019.
http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf

In order to evaluate consistency with this SB 375 objective and SCAG's *RTP/SCS* performance-based goal, SWAPE calculated the Project's per-capita CO_2 emissions from passenger and light duty vehicles (calculations attached hereto as Attachment B). First, total annual GHG mobile emissions were multiplied by the percentage of auto and light-duty truck fleet mix, then converted into total pounds per day, then divided by the estimated service population of 674. The below table shows the per capita emissions for the Project based on SWAPE's updated modeling (see table below and Attachment B). 2-14 Cont.

[55] "Connect SoCal Certified Final Program Environmental Impact Report." SCAG, May 2020, *available at*: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_complete.pdf?1607981618.
[56] "Connect SoCal Certified Final Program Environmental Impact Report." SCAG, May 2020, *available at*: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_complete.pdf?1607981618, p. 3.8-74.

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CO$_2$e Per Capita Emissions from Passenger & Light-Duty Trucks,	
Exceedances under RTP/SCS Performance-Based SB 375 Goals	
Sources	**Project**
	SWAPE Modeling
Annual Mobile Emissions (MT CO$_2$e/year)	2,553.25
Passenger & Light-Duty Fleet Mix (%)	91.23%
Daily CO$_2$e Emissions (lbs/day)	14,068.52
Service Population	674
Per Capita Emissions (lbs/day)	**20.87**
18.8 lbs/day/SP (2045 Target) Exceeded?	**Yes**

As shown in the above table, when utilizing the DEIR's modeling, the Project would result in 20.87 pounds per day per service population ("lbs/day/SP") emissions. This exceeds SCAG's 2035 target of 18.8-lbs/day/SP, indicating that the Project is inconsistent with SB 375 and SCAG's *RTP/SCS*.

i. SB 375 RTP/SCS Daily VMT Per Capita Target

Under the SCAG's 2020 *RTP/SCS*, daily VMT per capita in the SCAG region should decrease from 23.2 VMT in 2016 to 20.7 VMT by 2045.[57] Daily VMT per capita in Los Angeles County should decrease from 22.2 to 19.2 VMT during that same period.[58]

Here, however, the DEIR fails to consider any of the above-mentioned performance-based VMT targets. In order to evaluate consistency with the *RTP/SCS*'s performance-based VMT reduction targets, SWAPE calculated the Project's VMT from passenger and light duty vehicles (calculations attached hereto as Attachment B). First, annual VMTs from passenger automobile and light-duty vehicle were calculated based on the CalEEMod default fleet mix, converted into daily VMT, and divided by the estimated service population of 674. The below table shows the daily VMT per capita for the Project based on SWAPE's updated modeling (see table below and Attachment B).

2-14 Cont.

[57] "Connect SoCal." SCAG, September 2020, *available at*: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176, pp. 138.
[58] "Connect SoCal." SCAG, September 2020, *available at*: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176, pp. 138.

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Daily VMT Per Capita from Passenger & Light-Duty Trucks, Exceedances under RTP/SCS Performance-Based SB 375 Target	
Sources	**Project**
	SWAPE Modeling
Annual VMT from Auto & Light-Duty Vehicles	5,937,594
Daily VMT from Auto & Light-Duty Vehicles	16,267
Service Population	674
Daily VMT Per Capita	24.14
2020 RTP/SCS Benchmarks, SCAG-Wide	
23.2 VMT (2016 Baseline) Exceed?	**Yes**
20.7 VMT (2045 Target) Exceed?	**Yes**
2020 RTP/SCS Benchmarks, Los Angeles County	
22.2 VMT (2016 Baseline) Exceed?	**Yes**
19.2 VMT (2045 Target) Exceed?	**Yes**

As shown in the above table, based on a service population of 674, the Project would result in 24.14 VMT per capita from passenger auto and light-duty truck vehicles. This exceeds all SCAG-wide and Los Angeles County-specific benchmarks and targets under SCAG's 2020 *RTP/SCS*. Thus, based on SWAPE's updated modeling, the Project would exceed the 2016 baseline and 2045 target VMT per capita values for both Los Angeles County and the SCAG region as a whole, indicating that the Project conflicts with the SCAG's *RTP/SCS* and SB 375.

Feasible Mitigation Measures Available to Reduce Emissions

Our analysis demonstrates that the Project would result in potentially significant health risk and GHG 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 CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*.[59] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

2-14 Cont.

CAPCOA's Quantifying Greenhouse Gas Mitigation Measures[60]
Measures – Energy
Building Energy Use
Install Programmable Thermostat Timers
Obtain Third-party HVAC Commissioning and Verification of Energy Savings

[59] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

[60] "Quantifying Greenhouse Gas Mitigation Measures." California Air Pollution Control Officers Association (CAPCOA), August 2010, *available at:* http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf, p.

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Install Energy Efficient Appliances	
Install Energy Efficient Boilers	
Lighting	
Install Higher Efficacy Public Street and Area Lighting	
Limit Outdoor Lighting Requirements	
Replace Traffic Lights with LED Traffic Lights	
Alternative Energy Generation	
Establish Onsite Renewable or Carbon-Neutral Energy Systems	
Establish Onsite Renewable Energy System – Solar Power	
Utilize a Combined Heat and Power System	
Measures – Transportation	
Land Use/Location	
Increase Density	
Increase Destination Accessibility	
Integrate Affordable and Below Market Rate Housing	
Neighborhood/Site Enhancements	
Provide Pedestrian Network Improvements, such as: • Compact, mixed-use communities • Interconnected street network • Narrower roadways and shorter block lengths • Sidewalks • Accessibility to transit and transit shelters • Traffic calming measures and street trees • Parks and public spaces • Minimize pedestrian barriers	2-14 Cont.
Provide Traffic Calming Measures, such as: • Marked crosswalks • Count-down signal timers • Curb extensions • Speed tables • Raised crosswalks • Raised intersections • Median islands • Tight corner radii • Roundabouts or mini-circles • On-street parking • Planter strips with trees • Chicanes/chokers	
Implement a Neighborhood Electric Vehicle (NEV) Network.	
Create Urban Non-Motorized Zones	

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Dedicate Land for Bike Trails
Parking Policy/Pricing
Limit Parking Supply through: • Elimination (or reduction) of minimum parking requirements • Creation of maximum parking requirements • Provision of shared parking
Unbundle Parking Costs from Property Cost
Implement Market Price Public Parking (On-Street)
Require Residential Area Parking Permits
Commute Trip Reduction Programs
Implement Commute Trip Reduction (CTR) Program – Voluntary • Carpooling encouragement • Ride-matching assistance • Preferential carpool parking • Flexible work schedules for carpools • Half time transportation coordinator • Vanpool assistance • Bicycle end-trip facilities (parking, showers and lockers) • New employee orientation of trip reduction and alternative mode options • Event promotions and publications • Flexible work schedule for employees • Transit subsidies • Parking cash-out or priced parking • Shuttles • Emergency ride home
Implement Commute Trip Reduction (CTR) Program – Required Implementation/Monitoring • Established performance standards (e.g. trip reduction requirements) • Required implementation • Regular monitoring and reporting
Provide Ride-Sharing Programs • Designate a certain percentage of parking spaces for ride sharing vehicles • Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles • Providing a web site or messaging board for coordinating rides • Permanent transportation management association membership and funding requirement.
Implement Subsidized or Discounted Transit Program
Provide End of Trip Facilities, including: • Showers • Secure bicycle lockers • Changing spaces
Encourage Telecommuting and Alternative Work Schedules, such as: • Staggered starting times • Flexible schedules

2-14
Cont.

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• Compressed work weeks
Implement Commute Trip Reduction Marketing, such as: • New employee orientation of trip reduction and alternative mode options • Event promotions • Publications
Implement Preferential Parking Permit Program
Implement Car-Sharing Program
Provide Employer-Sponsored Vanpool/Shuttle
Implement Bike-Sharing Programs
Price Workplace Parking, such as: • Explicitly charging for parking for its employees; • Implementing above market rate pricing; • Validating parking only for invited guests; • Not providing employee parking and transportation allowances; and • Educating employees about available alternatives.
Implement Employee Parking "Cash-Out"
Transit System Improvements
Transit System Improvements, including: • Grade-separated right-of-way, including bus only lanes (for buses, emergency vehicles, and sometimes taxis), and other Transit Priority measures. Some systems use guideways which automatically steer the bus on portions of the route. • Frequent, high-capacity service • High-quality vehicles that are easy to board, quiet, clean, and comfortable to ride. • Pre-paid fare collection to minimize boarding delays. • Integrated fare systems, allowing free or discounted transfers between routes and modes. • Convenient user information and marketing programs. • High quality bus stations with Transit Oriented Development in nearby areas. • Modal integration, with BRT service coordinated with walking and cycling facilities, taxi services, intercity bus, rail transit, and other transportation services.
Implement Transit Access Improvements, such as: • Sidewalk/crosswalk safety enhancements • Bus shelter improvements
Expand Transit Network
Increase Transit Service Frequency/Speed
Provide Local Shuttles
Road Pricing/Management
Implement Area or Cordon Pricing
Improve Traffic Flow, such as: • Signalization improvements to reduce delay; • Incident management to increase response time to breakdowns and collisions;

2-14
Cont.

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• Intelligent Transportation Systems (ITS) to provide real-time information regarding road conditions and directions; and • Speed management to reduce high free-flow speeds.
Required Project Contributions to Transportation Infrastructure Improvement Projects
Install Park-and-Ride Lots
Vehicles
Utilize Alternative Fueled Vehicles, such as: • Biodiesel (B20) • Liquefied Natural Gas (LNG) • Compressed Natural Gas (CNG)
Utilize Electric or Hybrid Vehicles
Measures – Water
Water Supply
Use Reclaimed Water
Use Gray Water
Use Locally Sourced Water Supply
Water Use
Install Low-Flow Water Fixtures
Adopt a Water Conservation strategy
Design Water-Efficient Landscapes (see California Department of Water Resources Model Water Efficient Landscape Ordinance), such as: • Reducing lawn sizes; • Planting vegetation with minimal water needs, such as native species; • Choosing vegetation appropriate for the climate of the project site; • Choosing complimentary plants with similar water needs or which can provide each other with shade and/or water.
Use Water-Efficient Landscape Irrigation Systems ("Smart" irrigation control systems)
Reduce Turf in Landscapes and Lawns
Measures – Area Landscaping
Landscaping Equipment
Prohibit Gas Powered Landscape Equipment
Electric Yard Equipment Compatibility
Measures – Solid Waste
Solid Waste
Recycle Demolished Construction Material
Measures – Vegetation
Vegetation
Urban Tree Planting

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Cont.

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Create New Vegetated Open Space
Measures – Construction
Construction
Use Alternative Fuels for Construction Equipment
Urban Tree Planting
Use Electric and Hybrid Construction Equipment
Limit Construction Equipment Idling Beyond Regulation Requirements
Institute a Heavy-Duty Off-Road Vehicle Plan, including: • Construction vehicle inventory tracking system; • Requiring hour meters on equipment; • Document the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment; and • Daily logging of the operating hours of the equipment.
Implement a Construction Vehicle Inventory Tracking System
Measures – Miscellaneous
Miscellaneous
Establish a Carbon Sequestration Project, such as: • Geologic sequestration or carbon capture and storage techniques, in which CO_2 from point sources is captured and injected underground; • Terrestrial sequestration in which ecosystems are established or preserved to serve as CO_2 sinks; • Novel techniques involving advanced chemical or biological pathways; or • Technologies yet to be discovered.
Establish Off-Site Mitigation
Use Local and Sustainable Building Materials
Require Environmentally Responsible Purchasing, such as: • Purchasing products with sustainable packaging; • Purchasing post-consumer recycled copier paper, paper towels, and stationary; • Purchasing and stocking communal kitchens with reusable dishes and utensils; • Choosing sustainable cleaning supplies; • Leasing equipment from manufacturers who will recycle the components at their end of life; • Choosing ENERGY STAR appliances and Water Sense-certified water fixtures; • Choosing electronic appliances with built in sleep-mode timers; • Purchasing 'green power' (e.g. electricity generated from renewable or hydropower) from the utility; and • Choosing locally-made and distributed products.

Furthermore, in an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the proposed Project from NEDC's *Diesel Emission Controls in Construction*

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Projects.[61] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

NEDC's *Diesel Emission Controls in Construction Projects*[62]
Measures – Diesel Emission Control Technology
a. Diesel Onroad Vehicles All diesel nonroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA onroad emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
b. Diesel Generators All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
c. Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
Measures – Additional Diesel Requirements
a. Construction shall not proceed until the contractor submits a certified list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following: i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment. ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
b. If the contractor subsequently needs to bring on site equipment not on the list, the contractor shall submit written notification within 24 hours that attests the equipment complies with all contract conditions and provide information.
c. All diesel equipment shall comply with all pertinent local, state, and federal regulations relative to exhaust emission controls and safety.
d. The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
Reporting
a. For each onroad diesel vehicle, nonroad construction equipment, or generator, the contractor shall submit to the developer's representative a report prior to bringing said equipment on site that includes: i. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number.

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[61] "Diesel Emission Controls in Construction Projects." Northeast Diesel Collaborative (NEDC), December 2010, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.
[62] "Diesel Emission Controls in Construction Projects." Northeast Diesel Collaborative (NEDC), December 2010, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.

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ii.	The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level.
iii.	The Certification Statement signed and printed on the contractor's letterhead.
b.	The contractor shall submit to the developer's representative a monthly report that, for each onroad diesel vehicle, nonroad construction equipment, or generator onsite, includes: i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date. ii. Any problems with the equipment or emission controls. iii. Certified copies of fuel deliveries for the time period that identify: 1. Source of supply 2. Quantity of fuel 3. Quality of fuel, including sulfur content (percent by weight)

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 updated EIR should be prepared to include all feasible mitigation measures, as well as include an updated health risk and GHG analysis 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. 2-14 Cont.

Sincerely,

M Hagemann

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

Paul Rosenfeld

Paul E. Rosenfeld, Ph.D.

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Attachment A:	SWAPE Health Risk Calculations
Attachment B:	SWAPE GHG and VMT Calculations
Attachment C:	SWAPE Project CalEEMod Modeling
Attachment D:	SWAPE Project AERSCREEN Modeling
Attachment E:	Paul Rosenfeld CV
Attachment F:	Matt Hagemann CV

Attachment A

Operation	
Emission Rate	
Annual Emissions (tons/year)	0.0437
Daily Emissions (lbs/day)	0.239452055
Emission Rate (g/s)	0.00126
Release Height (meters)	3
Initial Vertical Dimension (meters)	1.5
Max Horizontal (meters)	256.0
Min Horizontal (meters)	101.0
Total Acreage	6.389151095
Setting	Urban
Population	16,731
Total Pounds of DPM	
Total DPM (lbs)	87.4

The Maximum Exposed Individual at an Existing Residential Receptor (MEIR)

Activity	Duration (years)	Concentration (ug/m3)	Breathing Rate (L/kg-day)	ASF	Cancer Risk with ASFs*
Total Construction	**2.83**				**4.2E-06**
Operation	13.42	0.1937	572	3	6.7E-05
Child Exposure Duration	***13.42***			***Child Exposure***	***6.7E-05***
Operation	14.00	0.1937	261	1	7.8E-06
Adult Exposure Duration	***14.00***			***Adult Exposure***	***7.8E-06***
Lifetime Exposure Duration	**30.25**			**Lifetime Exposure**	**7.9E-05**

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Attachment B

GHG CALCULATIONS: SWAPE Modeling

Line (L)	Value	Unit
		Total Emissions From Passenger and Light Duty Vehicles
1	2,553.25	Mobile Emissions (MT CO2e/year)
2	91.23%	Passenger and Light-Duty VMT Fleet Mix
3	2,329.20	Passenger and Light Duty Vehicle Emissions (MT CO2e/year) [Calc: (L1*L2)]
4	14,068.52	Passenger and Light-Duty Vehicle Emissions (Total lbs CO2e/day) [Calc: (L3 converted into lbs) / (365 days)]
5	674	Service Population [618 residents + 56 long-term jobs]
6	20.87	Per Service Population Emissions (lbs CO2e/day/SP) [Calc: (L4/L5)]
		Daily VMT Per Capita From Passenger and Light Duty Vehicles
7	6,508,735	Project Total VMT (CalEEMod Annual Output, Tbl. 4.2 Trip Summary)
8	91.23%	Passenger and Light-Duty VMT Fleet Mix (see L2)
9	5,937,594	VMT from Passenger & Light-Duty Vehicles
10	16,267	Daily VMT from Passenger & Light-Duty Vehicles [Calc: (L9/365)]
11	674	Service Population [618 residents + 56 long-term jobs]
12	24.14	Daily VMT Per Capita [(Calc: L10/L11)]

CO_2e Per Capita Emissions from Passenger & Light-Duty Trucks,	
Exceedances under RTP/SCS Performance-Based SB 375 Goals	
Sources	**Project**
	SWAPE Modeling
Annual Mobile Emissions (MT CO_2e/year)	2,553.25
Passenger & Light-Duty Fleet Mix (%)	91.23%
Daily CO_2e Emissions (lbs/day)	14,068.52
Service Population	674
Per Capita Emissions (lbs/day)	**20.87**
18.8 lbs/day/SP (2035 Goal) Exceeded?	Yes

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Daily VMT Per Capita from Passenger & Light-Duty Trucks, Exceedances under RTP/SCS Performance-Based SB 375 Target	
Sources	Project
	SWAPE Modeling
Annual VMT from Auto & Light-Duty Vehicles	5,937,594
Daily VMT from Auto & Light-Duty Vehicles	16,267
Service Population	674
Daily VMT Per Capita	24.14
2020 RTP/SCS Benchmarks, SCAG-Wide	
23.2 VMT (2016 Baseline) Exceed?	Yes
20.7 VMT (2045 Target) Exceed?	Yes
2020 RTP/SCS Benchmarks, Los Angeles County	
22.2 VMT (2016 Baseline) Exceed?	Yes
19.2 VMT (2045 Target) Exceed?	Yes

2017 Scoping Plan Daily VMT Per Capita						
	Los Angeles County			State		
Year	Population	LDV VMT Baseline	VMT Per Capita	Population	LDV VMT Baseline	VMT Per Capita
2010	9,838,771	216,979,221.64	22.05	37,335,085	836,463,980.46	22.40
2025	10,671,800	217,340,094.90	20.37	42,326,397	929,443,512.65	21.96
2030	10,868,614	215,539,586.12	19.83	43,939,250	957,178,153.19	21.78

Daily VMT Per Capita from Passenger & Light-Duty Trucks, Exceedances under 2017 Scoping Plan Performance-Based SB 375 Benchmarks	
Sources	Project
	SWAPE Modeling
Annual VMT from Auto & Light-Duty Vehicles	5,937,594
Daily VMT from Auto & Light-Duty Vehicles	16,267
Service Population	674
Daily VMT Per Capita	24.14
2017 Scoping Plan Benchmarks, Statewide	
22.40 VMT (2010 Baseline) Exceed?	Yes
21.96 VMT (2025 Projected) Exceed?	Yes
21.78 VMT (2030 Projected) Exceed?	Yes
2017 Scoping Plan Benchmarks, Los Angeles County Specific	
22.05 VMT (2010 Baseline) Exceed?	Yes
20.37 VMT (2025 Projected) Exceed?	Yes
19.83 VMT (2030 Projected) Exceed?	Yes

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Cont.

Attachment C

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Pacific Coast Commons Specific Plan Project

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	782.00	Space	0.00	318,800.00	0
Other Asphalt Surfaces	12.65	1000sqft	0.00	12,650.00	0
High Turnover (Sit Down Restaurant)	4.95	1000sqft	0.00	3,052.00	0
Apartments Mid Rise	263.00	Dwelling Unit	0.00	327,021.00	752
Regional Shopping Center	7.30	1000sqft	5.25	7,300.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 31

Climate Zone 0 **Operational Year** 2025

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 551.77 **CH4 Intensity (lb/MWhr)** 0.02 **N2O Intensity (lb/MWhr)** 0.005

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding underestimated land use sizes.

Construction Phase - Consistent with the DEIR's model.

Trips and VMT - See SWAPE comment regarding hauling trips. Worker and vendor trips consistent with the DEIR's model.

On-road Fugitive Dust -

Demolition - See SWAPE comment regarding demolition.

Grading - See SWAPE comment regarding acres of grading values, material mositure content, and material silt content. Material export consistent with the DEIR's model.

Architectural Coating - Architectural coating EFs consistent with the DEIR's model. See SWAPE comment regarding architectural coating areas.

Vehicle Trips - See SWAPE comment regarding operational vehicle trip rates.

Woodstoves - Consistent with the DEIR's model.

Area Coating - See SWAPE comment regarding area coating areas.

Energy Use -

Water And Wastewater - See SWAPE comment regarding wastewater treatment percentages.

Construction Off-road Equipment Mitigation - See SWAPE comment regarding construction-related mitigation measures.

Mobile Land Use Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	230.00	262.00

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tblConstructionPhase	NumDays	230.00	195.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	10.00	22.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	223.55	237.00
tblFireplaces	NumberNoFireplace	26.30	26.00
tblFireplaces	NumberWood	13.15	0.00
tblGrading	MaterialExported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	4,950.00	3,952.00
tblLandUse	LandUseSquareFeet	263,000.00	327,021.00
tblLandUse	LotAcreage	7.13	0.00
tblLandUse	LotAcreage	0.29	0.00
tblLandUse	LotAcreage	0.11	0.00
tblLandUse	LotAcreage	6.92	0.00
tblLandUse	LotAcreage	0.17	5.35
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.02
tblProjectCharacteristics	CO2IntensityFactor	702.44	561.77
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	84.00	60.00

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Cont.

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tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	84.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	332.00	300.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	66.00	240.00
tblTripsAndVMT	WorkerTripNumber	18.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	332.00	120.00
tblTripsAndVMT	WorkerTripNumber	15.00	40.00
tblTripsAndVMT	WorkerTripNumber	65.00	80.00
tblTripsAndVMT	WorkerTripNumber	15.00	100.00
tblTripsAndVMT	WorkerTripNumber	18.00	120.00
tblTripsAndVMT	WorkerTripNumber	15.00	160.00
tblVehicleTrips	HS_TTP	19.20	19.40
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	4.96
tblVehicleTrips	ST_TR	158.37	298.59
tblVehicleTrips	ST_TR	49.97	42.00

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tblVehicleTrips	SU_TR	5.86	5.04
tblVehicleTrips	SU_TR	131.84	205.83
tblVehicleTrips	SU_TR	25.24	23.51
tblVehicleTrips	WD_TR	6.65	5.18
tblVehicleTrips	WD_TR	127.15	179.90
tblVehicleTrips	WD_TR	42.70	38.05
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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					
2021	0.1147	1.1622	0.7437	1.6700e-003	0.3552	0.0526	0.4077	0.1637	0.0486	0.2122	0.0000	150.2960	150.2960	0.0339	0.0000	151.1444
2022	1.3593	2.3980	2.6886	5.9700e-003	0.2647	0.1049	0.3696	0.0870	0.0983	0.1853	0.0000	532.1323	532.1323	0.0866	0.0000	534.2970
2023	0.3592	2.9109	3.2200	9.1800e-003	0.7656	0.1075	0.8731	0.2899	0.1002	0.3901	0.0000	832.8981	832.8981	0.1113	0.0000	835.6806
2024	1.2711	1.3401	1.9799	5.3600e-003	0.2854	0.0473	0.3327	0.0765	0.0443	0.1208	0.0000	483.9751	483.9751	0.0547	0.0000	485.3423
Maximum	**1.3593**	**2.9109**	**3.2200**	**9.1800e-003**	**0.7656**	**0.1075**	**0.8731**	**0.2899**	**0.1002**	**0.3901**	**0.0000**	**832.8981**	**832.8981**	**0.1113**	**0.0000**	**835.6806**

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2.1 Overall Construction

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					
2021	0.1147	1.1622	0.7436	1.6700e-003	0.3552	0.0526	0.4077	0.1637	0.0485	0.2122	0.0000	150.2959	150.2959	0.0339	0.0000	151.1442
2022	1.3593	2.0860	2.6886	5.9700e-003	0.2647	0.1049	0.3696	0.0870	0.0963	0.1851	0.0000	532.1320	532.1320	0.0866	0.0000	534.2966
2023	0.3592	2.9109	3.2200	9.1800e-003	0.7656	0.1075	0.8731	0.2899	0.1002	0.3901	0.0000	832.8977	832.8977	0.1113	0.0000	835.6802
2024	1.2711	1.3401	1.9799	5.3600e-003	0.2864	0.0473	0.3337	0.0765	0.0443	0.1208	0.0000	403.9749	403.9749	0.0547	0.0000	405.3431
Maximum	**1.3593**	**2.9109**	**3.2200**	**9.1800e-003**	**0.7656**	**0.1075**	**0.8731**	**0.2899**	**0.1002**	**0.3901**	**0.0000**	**832.8977**	**832.8977**	**0.1113**	**0.0000**	**835.6802**

	ROG	NOx	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	10-1-2021	12-31-2021	1.2749	1.2749
2	1-1-2022	3-31-2022	0.7105	0.7106
3	4-1-2022	6-30-2022	0.6789	0.6789
4	7-1-2022	9-30-2022	0.6863	0.6863
5	10-1-2022	12-31-2022	1.6766	1.6766
6	1-1-2023	3-31-2023	0.9521	0.9521
7	4-1-2023	6-30-2023	0.8759	0.8759
8	7-1-2023	9-30-2023	0.7218	0.7218

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9	10-1-2023	12-31-2023	0.7269	0.7269
10	1-1-2024	3-31-2024	0.6806	0.6806
11	4-1-2024	6-30-2024	1.1803	1.1803
12	7-1-2024	9-30-2024	0.7515	0.7515
		Highest	1.5766	1.5766

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	1.4385	0.0313	2.7201	1.4000e-004		0.0151	0.0151		0.0151	0.0151	0.0000	4.4507	4.4507	4.3000e-003	0.0000	4.5580
Energy	0.0218	0.1894	0.1017	1.1900e-003		0.0151	0.0151		0.0151	0.0151	0.0000	1,013.325 0	1,013.325 0	0.0326	0.0111	1,017.432 6
Mobile	0.5540	2.7968	6.6640	0.0275	2.4727	0.0200	2.4927	0.6625	0.0186	0.6810	0.0000	2,550.383 7	2,550.383 7	0.1146	0.0000	2,553.247 8
Waste						0.0000	0.0000		0.0000	0.0000	38.0730	0.0000	38.0730	2.2501	0.0000	94.3242
Water						0.0000	0.0000		0.0000	0.0000	6.0846	95.4263	101.5108	0.6263	0.0166	121.8697
Total	**2.0143**	**3.0176**	**9.4867**	**0.0280**	**2.4727**	**0.0501**	**2.5220**	**0.6625**	**0.0487**	**0.7112**	**44.1575**	**3,663.585 6**	**3,707.743 1**	**3.0298**	**0.0267**	**3,791.432 4**

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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	1.4385	0.0313	2.7201	1.4000e-004		0.0151	0.0151		0.0151	0.0151	0.0000	4.4507	4.4507	4.3000e-003	0.0000	4.5580
Energy	0.0218	0.1894	0.1017	1.1900e-003		0.0151	0.0151		0.0151	0.0151	0.0000	1,013.325 0	1,013.325 0	0.0326	0.0111	1,017.432 6
Mobile	0.5540	2.7966	6.6649	0.0276	2.4727	0.0200	2.4927	0.6625	0.0186	0.6810	0.0000	2,550.383 7	2,550.383 7	0.1146	0.0000	2,553.247 8
Waste						0.0000	0.0000		0.0000	0.0000	38.0730	0.0000	38.0730	2.2501	0.0000	94.3242
Water						0.0000	0.0000		0.0000	0.0000	6.0845	95.4263	101.5108	0.6263	0.0166	121.8697
Total	**2.0143**	**3.0176**	**9.4867**	**0.0288**	**2.4727**	**0.0501**	**2.5228**	**0.6625**	**0.0487**	**0.7112**	**44.1575**	**3,663.585 6**	**3,707.743 1**	**3.0298**	**0.0267**	**3,791.432 4**

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

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition - Phase 1	Demolition	10/1/2021	10/31/2021	5	21	
2	Site Preparation - Phase 1	Site Preparation	11/1/2021	11/30/2021	5	22	
3	Grading - Phase 1	Grading	12/1/2021	1/31/2022	5	44	
4	Building Construction - Phase 1	Building Construction	2/1/2022	10/31/2022	5	195	
5	Paving - Phase 1	Paving	11/1/2022	12/31/2022	5	44	
6	Architectural Coating - Phase 1	Architectural Coating	11/1/2022	12/31/2022	5	44	
7	Demolition - Phases 2 and 3	Demolition	1/1/2023	2/28/2023	5	42	
8	Site Preparation - Phases 2 and 3	Site Preparation	3/1/2023	3/30/2023	5	22	
9	Grading - Phases 2 and 3	Grading	4/1/2023	5/30/2023	5	42	
10	Building Construction - Phases 2 and 3	Building Construction	6/1/2023	5/31/2024	5	262	
11	Paving - Phases 2 and 3	Paving	6/1/2024	7/31/2024	5	43	
12	Architectural Coating - Phases 2 and 3	Architectural Coating	6/1/2024	7/31/2024	5	43	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 662,218; Residential Outdoor: 220,739; Non-Residential Indoor: 18,378; Non-Residential Outdoor: 6,126; Striped Parking Area: 19,767 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition - Phase 1	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - Phase 1	Excavators	3	8.00	158	0.38
Demolition - Phase 1	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation - Phase 1	Rubber Tired Dozers	3	8.00	247	0.40

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Site Preparation - Phase 1	Tractors/Loaders/Backhoes		4	8.00	97	0.37
Grading - Phase 1	Excavators		1	8.00	158	0.38
Grading - Phase 1	Graders		1	8.00	187	0.41
Grading - Phase 1	Rubber Tired Dozers		1	8.00	247	0.40
Grading - Phase 1	Tractors/Loaders/Backhoes		3	8.00	97	0.37
Building Construction - Phase 1	Cranes		1	7.00	231	0.29
Building Construction - Phase 1	Forklifts		3	8.00	89	0.20
Building Construction - Phase 1	Generator Sets		1	8.00	84	0.74
Building Construction - Phase 1	Tractors/Loaders/Backhoes		3	7.00	97	0.37
Building Construction - Phase 1	Welders		1	8.00	46	0.45
Paving - Phase 1	Pavers		2	8.00	130	0.42
Paving - Phase 1	Paving Equipment		2	8.00	132	0.36
Paving - Phase 1	Rollers		2	8.00	80	0.38
Architectural Coating - Phase 1	Air Compressors		1	6.00	78	0.48
Demolition - Phases 2 and 3	Concrete/Industrial Saws		1	8.00	81	0.73
Demolition - Phases 2 and 3	Excavators		3	8.00	158	0.38
Demolition - Phases 2 and 3	Rubber Tired Dozers		2	8.00	247	0.40
Site Preparation - Phases 2 and 3	Rubber Tired Dozers		3	8.00	247	0.40
Site Preparation - Phases 2 and 3	Tractors/Loaders/Backhoes		4	8.00	97	0.37
Grading - Phases 2 and 3	Excavators		1	8.00	158	0.38
Grading - Phases 2 and 3	Graders		1	8.00	187	0.41
Grading - Phases 2 and 3	Rubber Tired Dozers		1	8.00	247	0.40
Grading - Phases 2 and 3	Tractors/Loaders/Backhoes		3	8.00	97	0.37
Building Construction - Phases 2 and 3	Cranes		1	7.00	231	0.29
Building Construction - Phases 2 and 3	Forklifts		3	8.00	89	0.20
Building Construction - Phases 2 and 3	Generator Sets		1	8.00	84	0.74
Building Construction - Phases 2 and 3	Tractors/Loaders/Backhoes		3	7.00	97	0.37

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Building Construction - Phases 2 and 3	Welders	1	8.00	46	0.45
Paving - Phases 2 and 3	Pavers	2	8.00	130	0.42
Paving - Phases 2 and 3	Paving Equipment	2	8.00	132	0.36
Paving - Phases 2 and 3	Rollers	2	8.00	80	0.38
Architectural Coating - Phases 2 and 3	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
Demolition - Phase 1	6	80.00	20.00	406.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation - Phase 1	7	50.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phase 1	6	80.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phase 1	9	120.00	30.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving - Phase 1	6	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - Phase 1	1	60.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition - Phases 2 and 3	6	100.00	40.00	406.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation - Phases 2 and 3	7	120.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phases 2 and 3	6	160.00	20.00	2,125.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phases 2 and 3	9	300.00	60.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving - Phases 2 and 3	6	60.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - Phases 2 and 3	1	240.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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3.2 Demolition - Phase 1 - 2021

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					0.0440	0.0000	0.0440	6.6600e-003	0.0000	6.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0332	0.3301	0.2264	4.1000e-004		0.0163	0.0163		0.0151	0.0151	0.0000	35.7008	35.7008	0.0101	0.0000	35.9520
Total	**0.0332**	**0.3301**	**0.2264**	**4.1000e-004**	**0.0440**	**0.0163**	**0.0603**	**6.6600e-003**	**0.0151**	**0.0218**	**0.0000**	**35.7008**	**35.7008**	**0.0101**	**0.0000**	**35.9520**

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	1.4900e-003	0.0529	0.0112	1.6000e-004	3.4900e-003	1.6000e-004	3.6500e-003	9.6000e-004	1.5000e-004	1.1100e-003	0.0000	15.1580	15.1580	1.0400e-003	0.0000	15.1839
Vendor	6.0000e-004	0.0203	5.0400e-003	5.0000e-005	1.3200e-003	4.0000e-005	1.3600e-003	3.8000e-004	4.0000e-005	4.2000e-004	0.0000	5.1271	5.1271	3.2000e-004	0.0000	5.1352
Worker	3.5000e-003	2.5900e-003	0.0293	9.0000e-005	9.2200e-003	7.0000e-005	9.2900e-003	2.4500e-003	6.0000e-005	2.5100e-003	0.0000	8.0275	8.0275	2.2000e-004	0.0000	8.0329
Total	**5.5900e-003**	**0.0758**	**0.0455**	**2.9000e-004**	**0.0140**	**2.7000e-004**	**0.0143**	**3.7900e-003**	**2.5000e-004**	**4.0400e-003**	**0.0000**	**28.3126**	**28.3126**	**1.5800e-003**	**0.0000**	**28.3521**

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.2 Demolition - Phase 1 - 2021

/litigated 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					0.0440	0.0000	0.0440	6.6600e-003	0.0000	6.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0332	0.3301	0.2264	4.1000e-004		0.0163	0.0163		0.0151	0.0151	0.0000	35.7008	35.7008	0.0101	0.0000	35.9520
Total	**0.0332**	**0.3301**	**0.2264**	**4.1000e-004**	**0.0440**	**0.0163**	**0.0603**	**6.6600e-003**	**0.0151**	**0.0218**	**0.0000**	**35.7008**	**35.7008**	**0.0101**	**0.0000**	**35.9520**

/litigated 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	1.4900e-003	0.0529	0.0112	1.5000e-004	3.4900e-003	1.6000e-004	3.6500e-003	9.6000e-004	1.5000e-004	1.1100e-003	0.0000	15.1580	15.1580	1.0400e-003	0.0000	15.1839
Vendor	6.0000e-004	0.0202	5.0400e-003	5.0000e-005	1.3200e-003	4.0000e-005	1.3600e-003	3.8000e-004	4.0000e-005	4.2000e-004	0.0000	5.1271	5.1271	3.2000e-004	0.0000	5.1352
Worker	3.5000e-003	2.5800e-003	0.0293	9.0000e-005	9.2200e-003	7.0000e-005	9.2900e-003	2.4500e-003	6.0000e-005	2.5100e-003	0.0000	8.0275	8.0275	2.2000e-004	0.0000	8.0329
Total	**5.5900e-003**	**0.0758**	**0.0455**	**2.9000e-004**	**0.0140**	**2.7000e-004**	**0.0143**	**3.7900e-003**	**2.5000e-004**	**4.0400e-003**	**0.0000**	**28.3126**	**28.3126**	**1.5800e-003**	**0.0000**	**28.3521**

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3.3 Site Preparation - Phase 1 - 2021

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					0.1987	0.0000	0.1987	0.1092	0.0000	0.1092	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0428	0.4455	0.2327	4.2000e-004		0.0225	0.0225		0.0207	0.0207	0.0000	36.7793	36.7793	0.0119	0.0000	37.0767
Total	**0.0428**	**0.4455**	**0.2327**	**4.2000e-004**	**0.1987**	**0.0225**	**0.2212**	**0.1092**	**0.0207**	**0.1299**	**0.0000**	**36.7793**	**36.7793**	**0.0119**	**0.0000**	**37.0767**

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	3.1000e-004	0.0106	2.6400e-003	3.0000e-005	6.9000e-004	2.0000e-005	7.1000e-004	2.0000e-004	2.0000e-005	2.2000e-004	0.0000	2.6856	2.6856	1.7000e-004	0.0000	2.6899
Worker	2.2900e-003	1.5900e-003	0.0192	6.0000e-005	6.0300e-003	5.0000e-005	6.0800e-003	1.6000e-003	4.0000e-005	1.6400e-003	0.0000	5.2561	5.2561	1.4000e-004	0.0000	5.2597
Total	**2.6000e-003**	**0.0123**	**0.0218**	**9.0000e-005**	**6.7200e-003**	**7.0000e-005**	**6.7900e-003**	**1.8000e-003**	**6.0000e-005**	**1.8600e-003**	**0.0000**	**7.9417**	**7.9417**	**3.1000e-004**	**0.0000**	**7.9495**

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3.3 Site Preparation - Phase 1 - 2021

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					0.1987	0.0000	0.1987	0.1092	0.0000	0.1092	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0428	0.4455	0.2327	4.2000e-004		0.0225	0.0225		0.0207	0.0207	0.0000	36.7792	36.7792	0.0119	0.0000	37.0766
Total	**0.0428**	**0.4455**	**0.2327**	**4.2000e-004**	**0.1987**	**0.0225**	**0.2212**	**0.1092**	**0.0207**	**0.1299**	**0.0000**	**36.7792**	**36.7792**	**0.0119**	**0.0000**	**37.0766**

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	3.1000e-004	0.0106	2.6400e-003	3.0000e-005	6.9000e-004	2.0000e-005	7.1000e-004	2.0000e-004	2.0000e-005	2.2000e-004	0.0000	2.6856	2.6856	1.7000e-004	0.0000	2.6899
Worker	2.2900e-003	1.6900e-003	0.0192	6.0000e-005	6.0300e-003	5.0000e-005	6.0800e-003	1.6000e-003	4.0000e-005	1.6400e-003	0.0000	5.2561	5.2561	1.4000e-004	0.0000	5.2597
Total	**2.6000e-003**	**0.0123**	**0.0219**	**9.0000e-005**	**6.7200e-003**	**7.0000e-005**	**6.7900e-003**	**1.8000e-003**	**6.0000e-005**	**1.8600e-003**	**0.0000**	**7.9417**	**7.9417**	**3.1000e-004**	**0.0000**	**7.9495**

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3.4 Grading - Phase 1 - 2021

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					0.0809	0.0000	0.0809	0.0393	0.0000	0.0393	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0263	0.2845	0.1824	3.4000e-004		0.0133	0.0133		0.0123	0.0123	0.0000	29.9618	29.9618	9.6900e-003	0.0000	30.2040
Total	**0.0263**	**0.2845**	**0.1824**	**3.4000e-004**	**0.0809**	**0.0133**	**0.0943**	**0.0393**	**0.0123**	**0.0516**	**0.0000**	**29.9618**	**29.9618**	**9.6900e-003**	**0.0000**	**30.2040**

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	3.3000e-004	0.0111	2.7800e-003	3.0000e-005	7.2000e-004	2.0000e-005	7.5000e-004	2.1000e-004	2.0000e-005	2.3000e-004	0.0000	2.8077	2.8077	1.8000e-004	0.0000	2.8121
Worker	3.8300e-003	2.8300e-003	0.0321	1.0000e-004	0.0101	6.0000e-005	0.0102	2.6800e-003	7.0000e-005	2.7500e-003	0.0000	8.7921	8.7921	2.4000e-004	0.0000	8.7980
Total	**4.1600e-003**	**0.0140**	**0.0348**	**1.3000e-004**	**0.0108**	**1.0000e-004**	**0.0109**	**2.8900e-003**	**9.0000e-005**	**2.9800e-003**	**0.0000**	**11.5998**	**11.5998**	**4.2000e-004**	**0.0000**	**11.6101**

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3.4 Grading - Phase 1 - 2021

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					0.0809	0.0000	0.0809	0.0393	0.0000	0.0393	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0263	0.2845	0.1824	3.4000e-004		0.0133	0.0133		0.0123	0.0123	0.0000	29.9617	29.9617	9.6900e-003	0.0000	30.2040
Total	**0.0263**	**0.2845**	**0.1824**	**3.4000e-004**	**0.0809**	**0.0133**	**0.0943**	**0.0393**	**0.0123**	**0.0516**	**0.0000**	**29.9617**	**29.9617**	**9.6900e-003**	**0.0000**	**30.2040**

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	3.5000e-004	0.0111	2.7800e-003	3.0000e-005	7.2000e-004	2.0000e-005	7.5000e-004	2.1000e-004	2.0000e-005	2.3000e-004	0.0000	2.8077	2.8077	1.0000e-004	0.0000	2.8121
Worker	3.8300e-003	2.9300e-003	0.0321	1.0000e-004	0.0101	8.0000e-005	0.0102	2.6800e-003	7.0000e-005	2.7600e-003	0.0000	8.7921	8.7921	2.4000e-004	0.0000	8.7980
Total	**4.1800e-003**	**0.0140**	**0.0348**	**1.3000e-004**	**0.0108**	**1.0000e-004**	**0.0109**	**2.8900e-003**	**9.0000e-005**	**2.9900e-003**	**0.0000**	**11.5998**	**11.5998**	**4.2000e-004**	**0.0000**	**11.6101**

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3.4 Grading - Phase 1 - 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					0.0749	0.0000	0.0749	0.0360	0.0000	0.0360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0205	0.2190	0.1604	3.1000e-004		9.8800e-003	9.8800e-003		9.0900e-003	9.0900e-003	0.0000	27.3575	27.3575	8.8500e-003	0.0000	27.5787
Total	**0.0205**	**0.2190**	**0.1604**	**3.1000e-004**	**0.0749**	**9.8800e-003**	**0.0848**	**0.0360**	**9.0900e-003**	**0.0451**	**0.0000**	**27.3575**	**27.3575**	**8.8500e-003**	**0.0000**	**27.5787**

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	2.8000e-004	9.6300e-003	2.3800e-003	3.0000e-005	6.6000e-004	2.0000e-005	6.8000e-004	1.9000e-004	2.0000e-005	2.1000e-004	0.0000	2.5410	2.5410	1.6000e-004	0.0000	2.5449
Worker	3.2900e-003	2.3400e-003	0.0270	9.0000e-005	9.2200e-003	7.0000e-005	9.2900e-003	2.4500e-003	6.0000e-005	2.5100e-003	0.0000	7.7397	7.7397	1.9000e-004	0.0000	7.7446
Total	**3.5700e-003**	**0.0120**	**0.0294**	**1.2000e-004**	**9.8800e-003**	**9.0000e-005**	**9.9600e-003**	**2.6400e-003**	**8.0000e-005**	**2.7200e-003**	**0.0000**	**10.2807**	**10.2807**	**3.5000e-004**	**0.0000**	**10.2895**

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3.4 Grading - Phase 1 - 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					0.0749	0.0000	0.0749	0.0360	0.0000	0.0360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0205	0.2190	0.1604	3.1000e-004		9.8800e-003	9.8800e-003		9.0900e-003	9.0900e-003	0.0000	27.3575	27.3575	8.8500e-003	0.0000	27.5787
Total	**0.0205**	**0.2190**	**0.1604**	**3.1000e-004**	**0.0749**	**9.8800e-003**	**0.0848**	**0.0360**	**9.0900e-003**	**0.0451**	**0.0000**	**27.3575**	**27.3575**	**8.8500e-003**	**0.0000**	**27.5787**

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	2.8000e-004	9.6300e-003	2.3800e-003	3.0000e-005	6.6000e-004	2.0000e-005	6.8000e-004	1.9000e-004	2.0000e-005	2.1000e-004	0.0000	2.5410	2.5410	1.6000e-004	0.0000	2.5449
Worker	3.2900e-003	2.3400e-003	0.0270	9.0000e-005	9.2200e-003	7.0000e-005	9.2800e-003	2.4500e-003	6.0000e-005	2.5100e-003	0.0000	7.7397	7.7397	1.9000e-004	0.0000	7.7446
Total	**3.5700e-003**	**0.0120**	**0.0294**	**1.2000e-004**	**9.8800e-003**	**9.0000e-005**	**9.9600e-003**	**2.6400e-003**	**8.0000e-005**	**2.7200e-003**	**0.0000**	**10.2807**	**10.2807**	**3.5000e-004**	**0.0000**	**10.2895**

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3.5 Building Construction - Phase 1 - 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	0.1664	1.5225	1.5954	2.6300e-003		0.0789	0.0789		0.0742	0.0742	0.0000	225.9321	225.9321	0.0541	0.0000	227.2853
Total	**0.1664**	**1.5225**	**1.5954**	**2.6300e-003**		**0.0789**	**0.0789**		**0.0742**	**0.0742**	**0.0000**	**225.9321**	**225.9321**	**0.0541**	**0.0000**	**227.2853**

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	7.8000e-003	0.2684	0.0663	7.3000e-004	0.0184	4.9000e-004	0.0189	5.3200e-003	4.7000e-004	5.7900e-003	0.0000	70.7841	70.7841	4.3500e-003	0.0000	70.8928
Worker	0.0458	0.0326	0.3765	1.1900e-003	0.1284	9.4000e-004	0.1293	0.0341	8.6000e-004	0.0350	0.0000	107.8034	107.8034	2.7100e-003	0.0000	107.8712
Total	**0.0536**	**0.3009**	**0.4428**	**1.9200e-003**	**0.1468**	**1.4300e-003**	**0.1482**	**0.0394**	**1.3300e-003**	**0.0407**	**0.0000**	**178.5875**	**178.5875**	**7.0600e-003**	**0.0000**	**178.7639**

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3.5 Building Construction - Phase 1 - 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	0.1664	1.5225	1.5954	2.6300e-003		0.0789	0.0789		0.0742	0.0742	0.0000	225.9318	225.9318	0.0541	0.0000	227.2850
Total	**0.1664**	**1.5225**	**1.5954**	**2.6300e-003**		**0.0789**	**0.0789**		**0.0742**	**0.0742**	**0.0000**	**225.9318**	**225.9318**	**0.0541**	**0.0000**	**227.2850**

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	7.8000e-003	0.2684	0.0663	7.3000e-004	0.0104	4.9000e-004	0.0109	5.3200e-003	4.7000e-004	5.7900e-003	0.0000	70.7841	70.7841	4.3500e-003	0.0000	70.8920
Worker	0.0458	0.0326	0.3765	1.1900e-003	0.1364	9.4000e-004	0.1373	0.0341	8.6000e-004	0.0350	0.0000	107.8034	107.8034	2.7100e-003	0.0000	107.8712
Total	**0.0536**	**0.3009**	**0.4428**	**1.9200e-003**	**0.1468**	**1.4300e-003**	**0.1482**	**0.0394**	**1.3300e-003**	**0.0407**	**0.0000**	**178.5875**	**178.5875**	**7.0600e-003**	**0.0000**	**178.7639**

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3.6 Paving - Phase 1 - 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	0.0243	0.2448	0.3208	5.0000e-004		0.0125	0.0125		0.0115	0.0115	0.0000	44.0606	44.0606	0.0143	0.0000	44.4169
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0243**	**0.2448**	**0.3208**	**5.0000e-004**		**0.0125**	**0.0125**		**0.0115**	**0.0115**	**0.0000**	**44.0606**	**44.0606**	**0.0143**	**0.0000**	**44.4169**

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	5.9000e-004	0.0202	4.9900e-003	5.0000e-005	1.3500e-003	4.0000e-005	1.4200e-003	4.0000e-004	4.0000e-005	4.4000e-004	0.0000	5.3239	5.3239	3.3000e-004	0.0000	5.3321
Worker	3.4400e-003	2.4500e-003	0.0288	9.0000e-005	9.6500e-003	7.0000e-005	9.7300e-003	2.5600e-003	6.0000e-005	2.6300e-003	0.0000	8.1083	8.1083	7.0000e-004	0.0000	8.1134
Total	**4.0300e-003**	**0.0226**	**0.0333**	**1.4000e-004**	**0.0110**	**1.1000e-004**	**0.0112**	**2.9600e-003**	**1.0000e-004**	**3.0700e-003**	**0.0000**	**13.4322**	**13.4322**	**5.3000e-004**	**0.0000**	**13.4455**

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3.6 Paving - Phase 1 - 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	0.0243	0.2448	0.3208	5.0000e-004		0.0125	0.0125		0.0115	0.0115	0.0000	44.0606	44.0606	0.0143	0.0000	44.4160
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0243**	**0.2448**	**0.3208**	**5.0000e-004**		**0.0125**	**0.0125**		**0.0115**	**0.0115**	**0.0000**	**44.0606**	**44.0606**	**0.0143**	**0.0000**	**44.4160**

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	5.9000e-004	0.0202	4.9900e-003	5.0000e-005	1.3900e-003	4.0000e-005	1.4200e-003	4.0000e-004	4.0000e-005	4.4000e-004	0.0000	5.3239	5.3239	3.3000e-004	0.0000	5.3321
Worker	3.4400e-003	2.4500e-003	0.0283	9.0000e-005	9.6500e-003	7.0000e-005	9.7300e-003	2.5600e-003	6.0000e-005	2.6300e-003	0.0000	8.1083	8.1083	2.0000e-004	0.0000	8.1134
Total	**4.0300e-003**	**0.0226**	**0.0333**	**1.4000e-004**	**0.0110**	**1.1000e-004**	**0.0112**	**2.9600e-003**	**1.0000e-004**	**3.0700e-003**	**0.0000**	**13.4322**	**13.4322**	**5.3000e-004**	**0.0000**	**13.4455**

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3.7 Architectural Coating - Phase 1 - 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					
Archit. Coating	1.0744					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5000e-003	0.0310	0.0389	7.0000e-005		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	5.6172	5.6172	3.7000e-004	0.0000	5.6263
Total	**1.0789**	**0.0310**	**0.0389**	**7.0000e-005**		**1.8000e-003**	**1.8000e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**5.6172**	**5.6172**	**3.7000e-004**	**0.0000**	**5.6263**

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	1.1700e-003	0.0404	9.9000e-003	1.1000e-004	2.7700e-003	7.0000e-005	2.8500e-003	8.0000e-004	7.0000e-005	8.7000e-004	0.0000	10.6479	10.6479	6.5000e-004	0.0000	10.6642
Worker	6.8900e-003	4.9000e-003	0.0566	1.8000e-004	0.0193	1.4000e-004	0.0195	5.1300e-003	1.3000e-004	5.2600e-003	0.0000	16.2166	16.2166	4.1000e-004	0.0000	16.2269
Total	**8.0600e-003**	**0.0453**	**0.0666**	**2.9000e-004**	**0.0221**	**2.1000e-004**	**0.0223**	**5.9300e-003**	**2.0000e-004**	**6.1300e-003**	**0.0000**	**26.8645**	**26.8645**	**1.0600e-003**	**0.0000**	**26.8910**

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3.7 Architectural Coating - Phase 1 - 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					
Archit. Coating	1.0744					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5000e-003	0.0310	0.0389	7.0000e-005		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	5.6172	5.6172	3.7000e-004	0.0000	5.6263
Total	**1.0789**	**0.0310**	**0.0399**	**7.0000e-005**		**1.8000e-003**	**1.8000e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**5.6172**	**5.6172**	**3.7000e-004**	**0.0000**	**5.6263**

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	1.1700e-003	0.0404	9.9000e-003	1.1000e-004	2.7700e-003	7.0000e-005	2.8500e-003	8.0000e-004	7.0000e-005	8.7000e-004	0.0000	10.6479	10.6479	6.5000e-004	0.0000	10.6642
Worker	6.8900e-003	4.9000e-003	0.0586	1.8000e-004	0.0193	1.4000e-004	0.0196	5.1300e-003	1.3000e-004	5.2600e-003	0.0000	16.2166	16.2166	4.1000e-004	0.0000	16.2269
Total	**8.0600e-003**	**0.0453**	**0.0666**	**2.9000e-004**	**0.0221**	**2.1000e-004**	**0.0223**	**5.9300e-003**	**2.0000e-004**	**6.1300e-003**	**0.0000**	**26.8645**	**26.8645**	**1.0600e-003**	**0.0000**	**26.8910**

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3.8 Demolition - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0440	0.0000	0.0440	6.6600e-003	0.0000	6.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0477	0.4512	0.4125	8.2000e-004		0.0210	0.0210		0.0195	0.0195	0.0000	71.3833	71.3833	0.0200	0.0000	71.8831
Total	**0.0477**	**0.4512**	**0.4125**	**8.2000e-004**	**0.0440**	**0.0210**	**0.0649**	**6.6600e-003**	**0.0195**	**0.0262**	**0.0000**	**71.3833**	**71.3833**	**0.0200**	**0.0000**	**71.8831**

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	9.4000e-004	0.0314	0.0100	1.6000e-004	3.4900e-003	6.0000e-005	3.5500e-003	9.6000e-004	6.0000e-005	1.0100e-003	0.0000	14.3849	14.3849	9.3000e-004	0.0000	14.4062
Vendor	1.6700e-003	0.0580	0.0170	2.0000e-004	5.2900e-003	7.0000e-005	5.3600e-003	1.5300e-003	6.0000e-005	1.5900e-003	0.0000	19.7150	19.7150	1.0900e-003	0.0000	19.7421
Worker	7.7400e-003	5.2900e-003	0.0623	2.1000e-004	0.0230	1.6000e-004	0.0232	6.1200e-003	1.5000e-004	6.2700e-003	0.0000	18.6277	18.6277	4.4000e-004	0.0000	18.6387
Total	**0.0104**	**0.0947**	**0.0894**	**5.6000e-004**	**0.0318**	**2.9000e-004**	**0.0321**	**8.6100e-003**	**2.7000e-004**	**8.8700e-003**	**0.0000**	**52.7276**	**52.7276**	**2.4600e-003**	**0.0000**	**52.7870**

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3.8 Demolition - Phases 2 and 3 - 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					
Fugitive Dust					0.0440	0.0000	0.0440	6.6600e-003	0.0000	6.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0477	0.4512	0.4125	8.2000e-004		0.0210	0.0210		0.0195	0.0195	0.0000	71.3833	71.3833	0.0200	0.0000	71.8830
Total	**0.0477**	**0.4512**	**0.4125**	**8.2000e-004**	**0.0440**	**0.0210**	**0.0649**	**6.6600e-003**	**0.0195**	**0.0262**	**0.0000**	**71.3833**	**71.3833**	**0.0200**	**0.0000**	**71.8830**

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	9.4000e-004	0.0314	0.0100	1.5000e-004	5.4900e-003	6.0000e-006	3.5500e-003	9.6000e-004	6.0000e-005	1.0100e-003	0.0000	14.3849	14.3849	9.3000e-004	0.0000	14.4082
Vendor	1.6700e-003	0.0580	0.0170	2.0000e-004	5.2900e-003	7.0000e-005	5.3600e-003	1.5300e-003	6.0000e-005	1.5900e-003	0.0000	19.7150	19.7150	1.0900e-003	0.0000	19.7421
Worker	7.7400e-003	5.2900e-003	0.0623	2.1000e-004	0.0230	1.6000e-004	0.0232	6.1200e-003	1.5000e-004	6.2700e-003	0.0000	18.6277	18.6277	4.4000e-004	0.0000	18.6387
Total	**0.0104**	**0.0947**	**0.0894**	**5.6000e-004**	**0.0318**	**2.9000e-004**	**0.0321**	**8.6100e-003**	**2.7000e-004**	**8.8700e-003**	**0.0000**	**52.7276**	**52.7276**	**2.4600e-003**	**0.0000**	**52.7890**

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3.9 Site Preparation - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1987	0.0000	0.1987	0.1092	0.0000	0.1092	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.3028	0.2007	4.2000e-004		0.0139	0.0139		0.0128	0.0128	0.0000	36.7958	36.7958	0.0119	0.0000	37.0933
Total	**0.0293**	**0.3028**	**0.2007**	**4.2000e-004**	**0.1987**	**0.0139**	**0.2127**	**0.1092**	**0.0128**	**0.1221**	**0.0000**	**36.7958**	**36.7958**	**0.0119**	**0.0000**	**37.0933**

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	4.4000e-004	0.0152	4.4600e-003	5.0000e-005	1.3900e-003	2.0000e-005	1.4000e-003	4.0000e-004	2.0000e-005	4.2000e-004	0.0000	5.1635	5.1635	2.0000e-004	0.0000	5.1706
Worker	4.8800e-003	5.3200e-003	0.0382	1.3000e-004	0.0145	1.0000e-004	0.0146	3.8500e-003	9.0000e-005	3.9400e-003	0.0000	11.7089	11.7089	2.6000e-004	0.0000	11.7157
Total	**5.3200e-003**	**0.0205**	**0.0428**	**1.8000e-004**	**0.0159**	**1.2000e-004**	**0.0160**	**4.2500e-003**	**1.1000e-004**	**4.3600e-003**	**0.0000**	**16.8723**	**16.8723**	**5.6000e-004**	**0.0000**	**16.8863**

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3.9 Site Preparation - Phases 2 and 3 - 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					
Fugitive Dust					0.1987	0.0000	0.1987	0.1092	0.0000	0.1092	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.3028	0.2007	4.2000e-004		0.0139	0.0139		0.0128	0.0128	0.0000	36.7957	36.7957	0.0119	0.0000	37.0932
Total	**0.0293**	**0.3028**	**0.2007**	**1.2000e-004**	**0.1987**	**0.0139**	**0.2127**	**0.1092**	**0.0128**	**0.1221**	**0.0000**	**36.7957**	**36.7957**	**0.0119**	**0.0000**	**37.0932**

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	4.4000e-004	0.0152	4.4600e-003	5.0000e-005	1.3900e-003	2.0000e-005	1.4000e-003	4.0000e-004	2.0000e-005	4.2000e-004	0.0000	5.1636	5.1636	2.9000e-004	0.0000	5.1709
Worker	4.8600e-003	3.3200e-003	0.0392	1.3000e-004	0.0145	1.0000e-004	0.0146	3.8500e-003	9.0000e-005	3.9400e-003	0.0000	11.7089	11.7089	2.6000e-004	0.0000	11.7157
Total	**5.3000e-003**	**0.0185**	**0.0436**	**1.8000e-004**	**0.0159**	**1.2000e-004**	**0.0160**	**4.2500e-003**	**1.1000e-004**	**4.3600e-003**	**0.0000**	**16.8723**	**16.8723**	**5.6000e-004**	**0.0000**	**16.8863**

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3.10 Grading - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1386	0.0000	0.1386	0.0709	0.0000	0.0709	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0359	0.3767	0.3098	6.2000e-004		0.0163	0.0163		0.0150	0.0150	0.0000	54.7273	54.7273	0.0177	0.0000	55.1690
Total	**0.0359**	**0.3767**	**0.3098**	**6.2000e-004**	**0.1386**	**0.0163**	**0.1548**	**0.0709**	**0.0150**	**0.0858**	**0.0000**	**54.7273**	**54.7273**	**0.0177**	**0.0000**	**55.1690**

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	4.9000e-003	0.1642	0.0524	7.6000e-004	0.0183	3.0000e-004	0.0186	5.0100e-003	2.9000e-004	5.3000e-003	0.0000	75.2902	75.2902	4.9900e-003	0.0000	75.4125
Vendor	8.4000e-004	0.0230	8.5100e-003	1.0000e-004	2.6500e-003	3.0000e-005	2.6800e-003	7.6000e-004	3.0000e-005	8.0000e-004	0.0000	9.8575	9.8575	5.4000e-004	0.0000	9.8711
Worker	0.0124	8.4600e-003	0.0997	3.3000e-004	0.0369	2.5000e-004	0.0371	9.7900e-003	2.4000e-004	0.0100	0.0000	29.8044	29.8044	7.0000e-004	0.0000	29.8219
Total	**0.0181**	**0.2017**	**0.1606**	**1.1900e-003**	**0.0578**	**5.9000e-004**	**0.0584**	**0.0156**	**5.6000e-004**	**0.0161**	**0.0000**	**114.9521**	**114.9521**	**6.1300e-003**	**0.0000**	**115.1055**

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3.10 Grading - Phases 2 and 3 - 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					
Fugitive Dust					0.1386	0.0000	0.1386	0.0709	0.0000	0.0709	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0359	0.3767	0.3098	6.2000e-004		0.0163	0.0163		0.0150	0.0150	0.0000	54.7272	54.7272	0.0177	0.0000	55.1697
Total	**0.0359**	**0.3767**	**0.3098**	**6.2000e-004**	**0.1386**	**0.0163**	**0.1549**	**0.0709**	**0.0150**	**0.0859**	**0.0000**	**54.7272**	**54.7272**	**0.0177**	**0.0000**	**55.1697**

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	4.9000e-003	0.1642	0.0524	7.6000e-004	0.0163	3.0000e-004	0.0166	5.0100e-003	2.9000e-004	5.3000e-003	0.0000	75.2902	75.2902	4.8900e-003	0.0000	75.4125
Vendor	8.4000e-004	0.0290	9.5100e-003	1.0000e-004	2.6500e-003	3.0000e-005	2.6800e-003	7.6000e-004	3.0000e-005	8.0000e-004	0.0000	9.8575	9.8575	5.4000e-004	0.0000	9.8711
Worker	0.0124	8.4600e-003	0.0987	3.3000e-004	0.0389	2.6000e-004	0.0391	9.7900e-003	2.4000e-004	0.0100	0.0000	29.8044	29.8044	7.0000e-004	0.0000	29.8219
Total	**0.0181**	**0.2017**	**0.1606**	**1.1900e-003**	**0.0578**	**5.9000e-004**	**0.0584**	**0.0156**	**5.6000e-004**	**0.0161**	**0.0000**	**114.9521**	**114.9521**	**6.1300e-003**	**0.0000**	**115.1055**

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3.11 Building Construction - Phases 2 and 3 - 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	0.1195	1.0933	1.2345	2.0500e-003		0.0532	0.0532		0.0500	0.0500	0.0000	176.1716	176.1716	0.0419	0.0000	177.2193
Total	**0.1195**	**1.0933**	**1.2345**	**2.0500e-003**		**0.0532**	**0.0532**		**0.0500**	**0.0500**	**0.0000**	**176.1716**	**176.1716**	**0.0419**	**0.0000**	**177.2193**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0800e-003	0.3148	0.0924	1.1000e-003	0.0287	3.6000e-004	0.0291	8.2900e-003	3.4000e-004	8.6400e-003	0.0000	107.0244	107.0244	5.8900e-003	0.0000	107.1716
Worker	0.0840	0.0574	0.6764	2.2400e-003	0.2502	1.7700e-003	0.2519	0.0664	1.6300e-003	0.0681	0.0000	202.2438	202.2438	4.7600e-003	0.0000	202.3627
Total	**0.0931**	**0.3722**	**0.7689**	**3.3400e-003**	**0.2789**	**2.1300e-003**	**0.2810**	**0.0747**	**1.9700e-003**	**0.0767**	**0.0000**	**309.2681**	**309.2681**	**0.0107**	**0.0000**	**309.5343**

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3.11 Building Construction - Phases 2 and 3 - 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	0.1195	1.0933	1.2345	2.0500e-003		0.0532	0.0532		0.0500	0.0500	0.0000	176.1714	176.1714	0.0419	0.0000	177.2191
Total	**0.1195**	**1.0933**	**1.2345**	**2.0500e-003**		**0.0532**	**0.0532**		**0.0500**	**0.0500**	**0.0000**	**176.1714**	**176.1714**	**0.0419**	**0.0000**	**177.2191**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0800e-003	0.3146	0.0924	1.1000e-003	0.0287	3.6000e-004	0.0291	8.2900e-003	3.4000e-004	8.6400e-003	0.0000	107.0244	107.0244	5.8800e-003	0.0000	107.1716
Worker	0.0840	0.0574	0.6764	2.2400e-003	0.2502	1.7700e-003	0.2519	0.0664	1.6300e-003	0.0681	0.0000	202.2438	202.2438	4.7800e-003	0.0000	202.3627
Total	**0.0931**	**0.3722**	**0.7689**	**3.3400e-003**	**0.2789**	**2.1300e-003**	**0.2810**	**0.0747**	**1.9700e-003**	**0.0767**	**0.0000**	**309.2681**	**309.2681**	**0.0107**	**0.0000**	**309.5343**

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3.11 Building Construction - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0809	0.7394	0.8892	1.4800e-003		0.0337	0.0337		0.0317	0.0317	0.0000	127.5170	127.5170	0.0302	0.0000	128.2709
Total	**0.0809**	**0.7394**	**0.8892**	**1.4800e-003**		**0.0337**	**0.0337**		**0.0317**	**0.0317**	**0.0000**	**127.5170**	**127.5170**	**0.0302**	**0.0000**	**128.2709**

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	6.4300e-003	0.2273	0.0650	7.4000e-004	0.0208	2.6000e-004	0.0211	6.0000e-003	2.4000e-004	6.2500e-003	0.0000	77.1782	77.1782	4.1900e-003	0.0000	77.2831
Worker	0.0576	0.0378	0.4566	1.5600e-003	0.1810	1.2700e-003	0.1823	0.0481	1.1700e-003	0.0492	0.0000	141.5441	141.5441	3.1500e-003	0.0000	141.6229
Total	**0.0641**	**0.2651**	**0.5216**	**2.3500e-003**	**0.2018**	**1.5300e-003**	**0.2034**	**0.0541**	**1.4100e-003**	**0.0555**	**0.0000**	**218.7223**	**218.7223**	**7.3400e-003**	**0.0000**	**218.9060**

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3.11 Building Construction - Phases 2 and 3 - 2024

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	0.0809	0.7394	0.0892	1.4800e-003		0.0337	0.0337		0.0317	0.0317	0.0000	127.5169	127.5169	0.0302	0.0000	128.2707
Total	**0.0809**	**0.7394**	**0.0892**	**1.4800e-003**		**0.0337**	**0.0337**		**0.0317**	**0.0317**	**0.0000**	**127.5169**	**127.5169**	**0.0302**	**0.0000**	**128.2707**

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	6.4300e-003	0.2273	0.0650	7.9000e-004	0.0208	2.6000e-004	0.0211	6.0000e-003	2.4000e-004	6.2500e-003	0.0000	77.1782	77.1782	4.1900e-003	0.0000	77.2831
Worker	0.0576	0.0378	0.4566	1.5600e-003	0.1810	1.2700e-003	0.1823	0.0481	1.1700e-003	0.0492	0.0000	141.5441	141.5441	3.1500e-003	0.0000	141.6229
Total	**0.0641**	**0.2651**	**0.5216**	**2.3500e-003**	**0.2018**	**1.5300e-003**	**0.2034**	**0.0541**	**1.4100e-003**	**0.0555**	**0.0000**	**218.7223**	**218.7223**	**7.3400e-003**	**0.0000**	**218.9060**

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3.12 Paving - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0213	0.2048	0.3145	4.9000e-004		0.0101	0.0101		9.2700e-003	9.2700e-003	0.0000	43.0570	43.0570	0.0139	0.0000	43.4052
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0213**	**0.2048**	**0.3145**	**4.9000e-004**		**0.0101**	**0.0101**		**9.2700e-003**	**9.2700e-003**	**0.0000**	**43.0570**	**43.0570**	**0.0139**	**0.0000**	**43.4052**

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	8.4000e-004	0.0296	8.4600e-003	1.0000e-004	2.7100e-003	3.0000e-005	2.7400e-003	7.8000e-004	3.0000e-005	8.1000e-004	0.0000	10.0566	10.0566	5.6000e-004	0.0000	10.0702
Worker	6.0100e-003	3.9400e-003	0.0476	1.6000e-004	0.0189	1.3000e-004	0.0190	5.0100e-003	1.2000e-004	5.1300e-003	0.0000	14.7549	14.7549	3.3000e-004	0.0000	14.7631
Total	**6.8500e-003**	**0.0336**	**0.0561**	**2.6000e-004**	**0.0216**	**1.6000e-004**	**0.0217**	**5.7900e-003**	**1.5000e-004**	**5.9400e-003**	**0.0000**	**24.8115**	**24.8115**	**8.9000e-004**	**0.0000**	**24.8333**

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3.12 Paving - Phases 2 and 3 - 2024

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	0.0213	0.2048	0.3145	4.9000e-004		0.0101	0.0101		9.2700e-003	9.2700e-003	0.0000	43.0570	43.0570	0.0139	0.0000	43.4051
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0213**	**0.2048**	**0.3145**	**4.9000e-004**		**0.0101**	**0.0101**		**9.2700e-003**	**9.2700e-003**	**0.0000**	**43.0570**	**43.0570**	**0.0139**	**0.0000**	**43.4051**

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	8.4000e-004	0.0296	8.4600e-003	1.0000e-004	2.7100e-003	3.0000e-005	2.7400e-003	7.8000e-004	3.0000e-005	8.1000e-004	0.0000	10.0566	10.0566	5.5000e-004	0.0000	10.0702
Worker	6.0100e-003	3.9400e-003	0.0476	1.6000e-004	0.0189	1.3000e-004	0.0190	5.0100e-003	1.2000e-004	5.1300e-003	0.0000	14.7549	14.7549	3.3000e-004	0.0000	14.7631
Total	**6.8500e-003**	**0.0336**	**0.0561**	**2.6000e-004**	**0.0216**	**1.6000e-004**	**0.0217**	**5.7900e-003**	**1.5000e-004**	**5.9400e-003**	**0.0000**	**24.8115**	**24.8115**	**8.8000e-004**	**0.0000**	**24.8333**

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3.13 Architectural Coating - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0744					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8900e-003	0.0262	0.0389	6.0000e-005		1.3100e-003	1.3100e-003		1.3100e-003	1.3100e-003	0.0000	5.4895	5.4895	3.1000e-004	0.0000	5.4972
Total	**1.0783**	**0.0262**	**0.0389**	**6.0000e-005**		**1.3100e-003**	**1.3100e-003**		**1.3100e-003**	**1.3100e-003**	**0.0000**	**5.4895**	**5.4895**	**3.1000e-004**	**0.0000**	**5.4972**

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	1.6800e-003	0.0592	0.0169	2.1000e-004	5.4200e-003	7.0000e-006	5.4900e-003	1.5600e-003	6.0000e-006	1.6300e-003	0.0000	20.1131	20.1131	1.0900e-003	0.0000	20.1404
Worker	0.0180	0.0118	0.1428	4.9000e-004	0.0566	4.6000e-004	0.0570	0.0150	4.1000e-004	0.0154	0.0000	44.2647	44.2647	9.9000e-004	0.0000	44.2894
Total	**0.0197**	**0.0711**	**0.1597**	**7.0000e-004**	**0.0620**	**4.7000e-004**	**0.0625**	**0.0166**	**4.2000e-004**	**0.0170**	**0.0000**	**64.3778**	**64.3778**	**2.0800e-003**	**0.0000**	**64.4298**

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3.13 Architectural Coating - Phases 2 and 3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0744					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8900e-003	0.0262	0.0389	6.0000e-005		1.3100e-003	1.3100e-003		1.3100e-003	1.3100e-003	0.0000	5.4695	5.4695	3.1000e-004	0.0000	5.4972
Total	**1.0783**	**0.0262**	**0.0389**	**6.0000e-005**		**1.3100e-003**	**1.3100e-003**		**1.3100e-003**	**1.3100e-003**	**0.0000**	**5.4695**	**5.4695**	**3.1000e-004**	**0.0000**	**5.4972**

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	1.6800e-003	0.0592	0.0169	2.1000e-004	5.4200e-003	7.0000e-005	5.4900e-003	1.5600e-003	6.0000e-005	1.6300e-003	0.0000	20.1131	20.1131	1.0900e-003	0.0000	20.1404
Worker	0.0180	0.0118	0.1428	4.9000e-004	0.0566	4.0000e-004	0.0570	0.0150	3.6000e-004	0.0154	0.0000	44.2647	44.2647	9.9000e-004	0.0000	44.2894
Total	**0.0197**	**0.0711**	**0.1597**	**7.0000e-004**	**0.0620**	**4.7000e-004**	**0.0625**	**0.0166**	**4.2000e-004**	**0.0170**	**0.0000**	**64.3778**	**64.3778**	**2.0800e-003**	**0.0000**	**64.4298**

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	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	0.5540	2.7968	6.6649	0.0275	2.4727	0.0200	2.4927	0.6625	0.0186	0.6810	0.0000	2,550.383 7	2,550.383 7	0.1146	0.0000	2,553.247 8
Unmitigated	0.5540	2.7968	6.6649	0.0275	2.4727	0.0200	2.4927	0.6625	0.0186	0.6810	0.0000	2,550.383 7	2,550.383 7	0.1146	0.0000	2,553.247 8

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,362.94	1,304.49	1325.62	4,601,434	4,601,434
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	888.51	1,478.07	1018.86	1,352,980	1,352,980
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	263.17	306.60	171.62	554,321	554,321
Total	2,516.01	3,089.10	2,516.00	6,508,735	6,508,735

4.3 Trip Type Information

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	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
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.40	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.551360	0.042151	0.204257	0.114482	0.014139	0.005703	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Enclosed Parking with Elevator	0.551360	0.042151	0.204257	0.114482	0.014139	0.005703	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
High Turnover (Sit Down Restaurant)	0.551360	0.042151	0.204257	0.114482	0.014139	0.005703	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Other Asphalt Surfaces	0.551360	0.042151	0.204257	0.114482	0.014139	0.005703	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Regional Shopping Center	0.551360	0.042151	0.204257	0.114482	0.014139	0.005703	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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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	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	797.4761	797.4761	0.0284	7.1000e-003	800.3011
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	797.4761	797.4761	0.0284	7.1000e-003	800.3011
NaturalGas Mitigated	0.0218	0.1894	0.1017	1.1900e-003		0.0151	0.0151		0.0151	0.0151	0.0000	215.8489	215.8489	4.1400e-003	3.9600e-003	217.1315
NaturalGas Unmitigated	0.0218	0.1894	0.1017	1.1900e-003		0.0151	0.0151		0.0151	0.0151	0.0000	215.8489	215.8489	4.1400e-003	3.9600e-003	217.1315

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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					
Apartments Mid Rise	3.00542e+006	0.0162	0.1385	0.0589	8.8000e-004		0.0112	0.0112		0.0112	0.0112	0.0000	160.3806	160.3806	3.0700e-003	2.9400e-003	161.3338
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	1.02483e+006	5.5300e-003	0.0502	0.0422	3.0000e-004		3.8200e-003	3.8200e-003		3.8200e-003	3.8200e-003	0.0000	54.6890	54.6890	1.0500e-003	1.0000e-003	55.0140
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
Regional Shopping Center	14600	8.0000e-005	7.2000e-004	6.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7791	0.7791	1.0000e-005	1.0000e-005	0.7837
Total		**0.0218**	**0.1895**	**0.1017**	**1.1800e-003**		**0.0151**	**0.0151**		**0.0151**	**0.0151**	**0.0000**	**215.8488**	**215.8488**	**4.1300e-003**	**3.9500e-003**	**217.1315**

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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					
Apartments Mid Rise	3.00542e+006	0.0162	0.1385	0.0589	8.8000e-004		0.0112	0.0112		0.0112	0.0112	0.0000	160.3806	160.3806	3.0700e-003	2.9400e-003	161.3338
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	1.02483e+006	5.5300e-003	0.0502	0.0422	3.0000e-004		3.8200e-003	3.8200e-003		3.8200e-003	3.8200e-003	0.0000	54.6890	54.6890	1.0500e-003	1.0000e-003	55.0140
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
Regional Shopping Center	14600	8.0000e-005	7.2000e-004	6.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7791	0.7791	1.0000e-005	1.0000e-005	0.7837
Total		**0.0218**	**0.1895**	**0.1017**	**1.1800e-003**		**0.0151**	**0.0151**		**0.0151**	**0.0151**	**0.0000**	**215.8488**	**215.8488**	**4.1300e-003**	**3.9500e-003**	**217.1315**

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.0455e +006	265.4096	9.4800e-003	2.3700e-003	267.3534
Enclosed Parking with Elevator	1.86645e +006	473.0500	0.0168	4.2100e-003	474.7258
High Turnover (Sit Down Restaurant)	144169	36.7364	1.3100e-003	3.3000e-004	36.8665
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	83512	21.2801	7.6000e-004	1.9000e-004	21.3555
Total		797.4761	0.0284	7.1000e-003	800.3011

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.0455e +006	265.4096	9.4800e-003	2.3700e-003	267.3534
Enclosed Parking with Elevator	1.86645e +006	473.0500	0.0168	4.2100e-003	474.7258
High Turnover (Sit Down Restaurant)	144169	36.7364	1.3100e-003	3.3000e-004	36.8665
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	83512	21.2801	7.6000e-004	1.9000e-004	21.3555
Total		797.4761	0.0284	7.1000e-003	800.3011

6.0 Area Detail

6.1 Mitigation Measures Area

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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	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4385	0.0313	2.7201	1.4000e-004		0.0151	0.0151		0.0151	0.0151	0.0000	4.4507	4.4507	4.3000e-003	0.0000	4.5580
Unmitigated	1.4385	0.0313	2.7201	1.4000e-004		0.0151	0.0151		0.0151	0.0151	0.0000	4.4507	4.4507	4.3000e-003	0.0000	4.5580

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	0.1126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2437					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0823	0.0313	2.7201	1.4000e-004		0.0151	0.0151		0.0151	0.0151	0.0000	4.4507	4.4507	4.3000e-003	0.0000	4.5580
Total	**1.4385**	**0.0313**	**2.7201**	**1.4000e-004**		**0.0151**	**0.0151**		**0.0151**	**0.0151**	**0.0000**	**4.4507**	**4.4507**	**4.3000e-003**	**0.0000**	**4.5580**

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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	0.1126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2437					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0823	0.0313	2.7201	1.4000e-004		0.0151	0.0151		0.0151	0.0151	0.0000	4.4507	4.4507	4.3000e-003	0.0000	4.5580
Total	**1.4385**	**0.0313**	**2.7201**	**1.4000e-004**		**0.0151**	**0.0151**		**0.0151**	**0.0151**	**0.0000**	**4.4507**	**4.4507**	**4.3000e-003**	**0.0000**	**4.5580**

7.0 Water Detail

7.1 Mitigation Measures Water

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Cont.

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	101.5108	0.6283	0.0156	121.8697
Unmitigated	101.5108	0.6283	0.0156	121.8697

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	17.1355 / 10.8028	92.8736	0.5615	0.0140	111.0712
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	1.50249 / 0.0959037	5.7334	0.0492	1.2000e-003	7.3204
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.540729 / 0.331415	2.9039	0.0177	4.4000e-004	3.4780
Total		**101.5108**	**0.6283**	**0.0156**	**121.8697**

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	17.1355 / 10.8028	92.8736	0.5615	0.0140	111.0712
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	1.50249 / 0.0959037	5.7334	0.0492	1.2000e-003	7.3204
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.540729 / 0.331415	2.9039	0.0177	4.4000e-004	3.4780
Total		**101.5108**	**0.6283**	**0.0156**	**121.8697**

8.0 Waste Detail

8.1 Mitigation Measures Waste

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	38.0730	2.2501	0.0000	94.3242
Unmitigated	38.0730	2.2501	0.0000	94.3242

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	120.86	24.5579	1.4513	0.0000	60.8410
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	58.91	11.9582	0.7067	0.0000	29.6259
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	7.67	1.5569	0.0920	0.0000	3.8573
Total		38.0730	2.2501	0.0000	94.3242

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	120.98	24.5579	1.4513	0.0000	60.8410
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	58.91	11.9582	0.7067	0.0000	29.6259
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	7.67	1.5569	0.0920	0.0000	3.8573
Total		38.0730	2.2501	0.0000	94.3242

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

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User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

Pacific Coast Commons Specific Plan Project

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	792.00	Space	0.00	316,800.00	0
Other Asphalt Surfaces	12.65	1000sqft	0.00	12,650.00	0
High Turnover (Sit Down Restaurant)	4.95	1000sqft	0.00	9,952.00	0
Apartments Mid Rise	263.00	Dwelling Unit	0.00	327,021.00	752
Regional Shopping Center	7.30	1000sqft	5.35	7,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	561.77	**CH4 Intensity (lb/MWhr)**	0.02	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding underestimated land use sizes.

Construction Phase - Consistent with the DEIR's model.

Trips and VMT - See SWAPE comment regarding hauling trips. Worker and vendor trips consistent with the DEIR's model.

On-road Fugitive Dust -

Demolition - See SWAPE comment regarding demolition.

Grading - See SWAPE comment regarding acres of grading values, material mositure content, and material silt content. Material export consistent with the DEIR's model.

Architectural Coating - Architectural coating EFs consistent with the DEIR's model. See SWAPE comment regarding architectural coating areas.

Vehicle Trips - See SWAPE comment regarding operational vehicle trip rates.

Woodstoves - Consistent with the DEIR's model.

Area Coating - See SWAPE comment regarding area coating areas.

Energy Use -

Water And Wastewater - See SWAPE comment regarding wastewater treatment percentages.

Construction Off-road Equipment Mitigation - See SWAPE comment regarding construction-related mitigation measures.

Mobile Land Use Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	230.00	262.00

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tblConstructionPhase	NumDays	230.00	195.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	10.00	22.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	223.55	237.00
tblFireplaces	NumberNoFireplace	26.30	26.00
tblFireplaces	NumberWood	13.15	0.00
tblGrading	MaterialExported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	4,950.00	3,952.00
tblLandUse	LandUseSquareFeet	263,000.00	327,021.00
tblLandUse	LotAcreage	7.13	0.00
tblLandUse	LotAcreage	0.29	0.00
tblLandUse	LotAcreage	0.11	0.00
tblLandUse	LotAcreage	6.92	0.00
tblLandUse	LotAcreage	0.17	5.35
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.02
tblProjectCharacteristics	CO2IntensityFactor	702.44	561.77
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	84.00	60.00

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Cont.

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tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	84.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	15.00	60.00
tblTripsAndVMT	WorkerTripNumber	332.00	300.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	66.00	240.00
tblTripsAndVMT	WorkerTripNumber	19.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	332.00	120.00
tblTripsAndVMT	WorkerTripNumber	15.00	40.00
tblTripsAndVMT	WorkerTripNumber	66.00	80.00
tblTripsAndVMT	WorkerTripNumber	15.00	100.00
tblTripsAndVMT	WorkerTripNumber	18.00	120.00
tblTripsAndVMT	WorkerTripNumber	15.00	160.00
tblVehicleTrips	HS_TTP	19.20	19.40
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	4.96
tblVehicleTrips	ST_TR	158.37	298.59
tblVehicleTrips	ST_TR	49.97	42.00

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Cont.

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tblVehicleTrips	SU_TR	5.96	5.04
tblVehicleTrips	SU_TR	131.84	205.83
tblVehicleTrips	SU_TR	25.24	23.51
tblVehicleTrips	WD_TR	6.65	5.18
tblVehicleTrips	WD_TR	127.15	179.90
tblVehicleTrips	WD_TR	42.70	30.05
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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					
2021	4.1271	41.5877	26.0668	0.0676	18.6891	2.0505	20.7396	10.0973	1.8865	11.9839	0.0000	6,782.521 0	6,782.521 0	1.2234	0.0000	6,812.987 9
2022	50.6983	21.9983	21.2160	0.0474	7.5106	0.9489	8.4595	3.6231	0.8731	4.4961	0.0000	4,645.779 7	4,645.779 7	0.9863	0.0000	4,663.075 6
2023	3.1451	29.1616	27.0612	0.0877	19.5356	1.2769	20.8125	10.3233	1.1749	11.4981	0.0000	9,024.161 9	9,024.161 9	1.2494	0.0000	9,055.377 7
2024	52.3840	16.1519	27.1750	0.0723	3.9808	0.6409	4.5194	1.0592	0.6025	1.6023	0.0000	7,235.973 5	7,235.973 5	0.8828	0.0000	7,258.041 9
Maximum	**52.3840**	**41.5877**	**27.1750**	**0.0877**	**19.5356**	**2.0505**	**20.8125**	**10.3233**	**1.8865**	**11.9839**	**0.0000**	**9,024.161 9**	**9,024.161 9**	**1.2494**	**0.0000**	**9,055.377 7**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

2.1 Overall Construction (Maximum Daily Emission)

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					
2021	4.1271	41.5877	26.0668	0.0676	18.6891	2.0505	20.7396	10.0973	1.8865	11.9839	0.0000	6,782.521 0	6,782.521 0	1.2234	0.0000	6,812.987 9
2022	50.6983	21.9983	21.2160	0.0474	7.5106	0.9489	8.4595	3.6231	0.8731	4.4961	0.0000	4,645.779 7	4,645.779 7	0.9863	0.0000	4,663.075 6
2023	3.1451	29.1616	27.0612	0.0877	19.5356	1.2769	20.8125	10.3233	1.1749	11.4981	0.0000	9,024.161 9	9,024.161 9	1.2494	0.0000	9,055.377 7
2024	52.3840	16.1519	27.1750	0.0723	3.9808	0.6409	4.5194	1.0592	0.6025	1.6023	0.0000	7,235.973 5	7,235.973 5	0.8828	0.0000	7,258.041 9
Maximum	**52.3840**	**41.5877**	**27.1750**	**0.0877**	**19.5356**	**2.0505**	**20.8125**	**10.3233**	**1.8865**	**11.9839**	**0.0000**	**9,024.161 9**	**9,024.161 9**	**1.2494**	**0.0000**	**9,055.377 7**

	ROG	NOx	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

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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	6.5499	4.1819	23.4334	0.0263		0.4364	0.4364		0.4364	0.4364	0.0000	5,058.071 6	5,058.071 6	0.1341	0.0920	5,088.642 9
Energy	0.1195	1.0360	0.6574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.740 4	1,303.740 4	0.0250	0.0239	1,311.487 9
Mobile	3.9048	17.6188	43.5820	0.1781	15.5725	0.1246	15.6971	4.1658	0.1157	4.2815		18,192.40 41	18,192.40 41	0.7958		18,212.30 01
Total	**12.5742**	**22.8367**	**67.6728**	**0.2109**	**15.5725**	**0.6456**	**16.2181**	**4.1658**	**0.6367**	**4.8025**	**0.0000**	**24,554.21 61**	**24,554.21 61**	**0.9549**	**0.1159**	**24,612.63 09**

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	6.5499	4.1819	23.4334	0.0263		0.4364	0.4364		0.4364	0.4364	0.0000	5,058.071 6	5,058.071 6	0.1341	0.0920	5,088.642 9
Energy	0.1195	1.0360	0.6574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.740 4	1,303.740 4	0.0250	0.0239	1,311.487 9
Mobile	3.9048	17.6188	43.5820	0.1781	15.5725	0.1246	15.6971	4.1658	0.1157	4.2815		18,192.40 41	18,192.40 41	0.7958		18,212.30 01
Total	**12.5742**	**22.8367**	**67.6728**	**0.2109**	**15.5725**	**0.6456**	**16.2181**	**4.1658**	**0.6367**	**4.8025**	**0.0000**	**24,554.21 61**	**24,554.21 61**	**0.9549**	**0.1159**	**24,612.63 09**

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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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition - Phase I	Demolition	10/1/2021	10/31/2021	5	21	
2	Site Preparation - Phase 1	Site Preparation	11/1/2021	11/30/2021	5	22	
3	Grading - Phase 1	Grading	12/1/2021	1/31/2022	5	44	
4	Building Construction - Phase 1	Building Construction	2/1/2022	10/31/2022	5	195	
5	Paving - Phase 1	Paving	11/1/2022	12/31/2022	5	44	
6	Architectural Coating - Phase 1	Architectural Coating	11/1/2022	12/31/2022	5	44	
7	Demolition - Phases 2 and 3	Demolition	1/1/2023	2/28/2023	5	42	
8	Site Preparation - Phases 2 and 3	Site Preparation	3/1/2023	3/30/2023	5	22	
9	Grading - Phases 2 and 3	Grading	4/1/2023	5/30/2023	5	42	
10	Building Construction - Phases 2 and 3	Building Construction	6/1/2023	5/31/2024	5	262	
11	Paving - Phases 2 and 3	Paving	6/1/2024	7/31/2024	5	43	
12	Architectural Coating - Phases 2 and 3	Architectural Coating	6/1/2024	7/31/2024	5	43	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 662,218; Residential Outdoor: 220,739; Non-Residential Indoor: 18,378; Non-Residential Outdoor: 6,126; Striped Parking Area: 19,767 (Architectural Coating – sqft)

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition - Phase 1	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - Phase 1	Excavators	3	8.00	158	0.38
Demolition - Phase 1	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation - Phase 1	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation - Phase 1	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading - Phase 1	Excavators	1	8.00	158	0.38
Grading - Phase 1	Graders	1	8.00	187	0.41
Grading - Phase 1	Rubber Tired Dozers	1	8.00	247	0.40
Grading - Phase 1	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction - Phase 1	Cranes	1	7.00	231	0.29
Building Construction - Phase 1	Forklifts	3	8.00	89	0.20
Building Construction - Phase 1	Generator Sets	1	8.00	84	0.74
Building Construction - Phase 1	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction - Phase 1	Welders	1	8.00	46	0.45
Paving - Phase 1	Pavers	2	8.00	130	0.42
Paving - Phase 1	Paving Equipment	2	8.00	132	0.36
Paving - Phase 1	Rollers	2	8.00	80	0.38
Architectural Coating - Phase 1	Air Compressors	1	6.00	78	0.48
Demolition - Phases 2 and 3	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - Phases 2 and 3	Excavators	3	8.00	158	0.38
Demolition - Phases 2 and 3	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation - Phases 2 and 3	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation - Phases 2 and 3	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading - Phases 2 and 3	Excavators	1	8.00	158	0.38
Grading - Phases 2 and 3	Graders	1	8.00	187	0.41

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Grading - Phases 2 and 3	Rubber Tired Dozers		1	8.00	247	0.40
Grading - Phases 2 and 3	Tractors/Loaders/Backhoes		3	8.00	97	0.37
Building Construction - Phases 2 and 3	Cranes		1	7.00	231	0.29
Building Construction - Phases 2 and 3	Forklifts		3	8.00	89	0.20
Building Construction - Phases 2 and 3	Generator Sets		1	8.00	84	0.74
Building Construction - Phases 2 and 3	Tractors/Loaders/Backhoes		3	7.00	97	0.37
Building Construction - Phases 2 and 3	Welders		1	8.00	46	0.45
Paving - Phases 2 and 3	Pavers		2	8.00	130	0.42
Paving - Phases 2 and 3	Paving Equipment		2	8.00	132	0.36
Paving - Phases 2 and 3	Rollers		2	8.00	80	0.38
Architectural Coating - Phases 2 and 3	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
Demolition - Phase 1	6	60.00	20.00	406.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation - Phase 1	7	50.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phase 1	6	80.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phase 1	9	120.00	30.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving - Phase 1	6	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - Phase 1	1	60.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition - Phases 2 and 3	6	100.00	40.00	406.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation - Phases 2 and 3	7	120.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phases 2 and 3	6	160.00	20.00	2,125.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phases 2 and 3	9	300.00	60.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving - Phases 2 and 3	6	80.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - Phases 2 and 3	1	240.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.1 Mitigation Measures Construction

3.2 Demolition - Phase 1 - 2021

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					4.1873	0.0000	4.1873	0.6340	0.0000	0.6340			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**4.1873**	**1.5513**	**5.7386**	**0.6340**	**1.4411**	**2.0751**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.2 Demolition - Phase 1 - 2021

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	0.1403	4.6911	1.0354	0.0148	0.3378	0.0152	0.3530	0.0926	0.0145	0.1071		1,603.7765	1,603.7765	0.1070		1,606.4514
Vendor	0.0557	1.9075	0.4527	5.1000e-003	0.1280	3.8400e-003	0.1318	0.0368	3.6700e-003	0.0406		544.8769	544.8769	0.0330		545.7009
Worker	0.3377	0.4190	3.0136	8.8900e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0800e-003	0.2432		885.9227	885.9227	0.0238		886.5182
Total	**0.5336**	**7.0176**	**4.5018**	**0.0288**	**1.3600**	**0.0256**	**1.3856**	**0.3666**	**0.0242**	**0.3908**		**3,034.5761**	**3,034.5761**	**0.1638**		**3,038.6706**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1873	0.0000	4.1873	0.6340	0.0000	0.6340			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**4.1873**	**1.5513**	**5.7386**	**0.6340**	**1.4411**	**2.0751**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.2 Demolition - Phase 1 - 2021

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	0.1403	4.8911	1.0354	0.0148	0.3378	0.0152	0.3530	0.0926	0.0145	0.1071		1,603.7785	1,603.7785	0.1070		1,606.4514
Vendor	0.0557	1.9075	0.4627	5.1000e-003	0.1280	3.8400e-003	0.1318	0.0368	3.6700e-003	0.0406		544.8769	544.8769	0.0330		545.7009
Worker	0.3377	0.2190	3.0036	8.6900e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0800e-003	0.2432		885.9227	885.9227	0.0236		886.5182
Total	**0.5336**	**7.0176**	**4.5018**	**0.0286**	**1.3600**	**0.0256**	**1.3856**	**0.3666**	**0.0242**	**0.3908**		**3,034.5761**	**3,034.5761**	**0.1636**		**3,038.6706**

3.3 Site Preparation - Phase 1 - 2021

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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Cont.

3.3 Site Preparation - Phase 1 - 2021

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
Vendor	0.0278	0.9538	0.2263	2.5500e-003	0.0640	1.9200e-003	0.0659	0.0184	1.8400e-003	0.0203		272.4385	272.4385	0.0165		272.8505
Worker	0.2111	0.1369	1.8836	5.5600e-003	0.5589	4.1100e-003	0.5630	0.1482	3.7900e-003	0.1520		553.7017	553.7017	0.0149		554.0739
Total	**0.2389**	**1.0906**	**2.1100**	**8.1100e-003**	**0.6229**	**6.0300e-003**	**0.6289**	**0.1667**	**5.6300e-003**	**0.1723**		**826.1401**	**826.1401**	**0.0314**		**826.9244**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

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Cont.

3.3 Site Preparation - Phase 1 - 2021

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
Vendor	0.0278	0.9538	0.2263	2.5500e-003	0.0640	1.9200e-003	0.0659	0.0184	1.8400e-003	0.0203		272.4385	272.4385	0.0165		272.8505
Worker	0.2111	0.1369	1.8836	5.5600e-003	0.5589	4.1100e-003	0.5630	0.1482	3.7900e-003	0.1520		553.7017	553.7017	0.0149		554.0739
Total	**0.2389**	**1.0906**	**2.1100**	**8.1100e-003**	**0.6229**	**6.0300e-003**	**0.6289**	**0.1667**	**5.6300e-003**	**0.1723**		**826.1401**	**826.1401**	**0.0314**		**826.9244**

3.4 Grading - Phase 1 - 2021

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

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3.4 Grading - Phase 1 - 2021

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
Vendor	0.0278	0.9538	0.2263	2.5500e-003	0.0640	1.9200e-003	0.0659	0.0184	1.8400e-003	0.0203		272.4385	272.4385	0.0165		272.8505
Worker	0.3377	0.2190	3.0138	8.8800e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0800e-003	0.2432		885.9227	885.9227	0.0238		886.5182
Total	**0.3655**	**1.1728**	**3.2401**	**0.0114**	**0.9582**	**8.5000e-003**	**0.9667**	**0.2556**	**7.9000e-003**	**0.2635**		**1,158.361 1**	**1,158.361 1**	**0.0403**		**1,159.368 7**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**	**0.0000**	**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

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3.4 Grading - Phase 1 - 2021

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
Vendor	0.0278	0.9538	0.2263	2.5600e-003	0.0640	1.9200e-003	0.0659	0.0184	1.8400e-003	0.0203		272.4385	272.4385	0.0165		272.8505
Worker	0.3377	0.2190	3.0138	8.8900e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0600e-003	0.2432		885.9227	885.9227	0.0238		886.5182
Total	**0.3655**	**1.1728**	**3.2401**	**0.0114**	**0.9582**	**8.5000e-003**	**0.9667**	**0.2556**	**7.9000e-003**	**0.2635**		**1,158.361 1**	**1,158.361 1**	**0.0403**		**1,159.368 7**

3.4 Grading - Phase 1 - 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.046 4	2,872.046 4	0.9289		2,895.268 4
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5523**	**0.9409**	**7.4932**	**3.3675**	**0.8656**	**4.2331**		**2,872.046 4**	**2,872.046 4**	**0.9289**		**2,895.268 4**

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3.4 Grading - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0261	0.9063	0.2139	2.5300e-003	0.0640	1.6600e-003	0.0657	0.0184	1.5900e-003	0.0200		270.0591	270.0591	0.0159		270.4558
Worker	0.3168	0.1970	2.7868	8.5700e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		854.1791	854.1791	0.0215		854.7174
Total	**0.3429**	**1.1032**	**3.0007**	**0.0111**	**0.9582**	**8.0500e-003**	**0.9663**	**0.2556**	**7.4800e-003**	**0.2631**		**1,124.2383**	**1,124.2383**	**0.0374**		**1,125.1732**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2604
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5523**	**0.9409**	**7.4932**	**3.3675**	**0.8656**	**4.2331**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

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3.4 Grading - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0261	0.9053	0.2139	2.5300e-003	0.0640	1.6600e-003	0.0657	0.0184	1.5900e-003	0.0201		270.0591	270.0591	0.0159		270.4558
Worker	0.3168	0.1979	2.7868	8.5700e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		854.1791	854.1791	0.0215		854.7174
Total	**0.3429**	**1.1032**	**3.0007**	**0.0111**	**0.9582**	**8.0500e-003**	**0.9663**	**0.2556**	**7.4800e-003**	**0.2631**		**1,124.238 3**	**1,124.238 3**	**0.0374**		**1,125.173 2**

3.5 Building Construction - Phase 1 - 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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

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3.5 Building Construction - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0783	2.7160	0.6417	7.5900e-003	0.1926	4.9900e-003	0.1970	0.0553	4.7700e-003	0.0601		810.1774	810.1774	0.0476		811.3673
Worker	0.4751	0.2968	4.1802	0.0129	1.3413	9.6900e-003	1.3509	0.3557	8.9200e-003	0.3646		1,281.268 7	1,281.268 7	0.0323		1,282.076 1
Total	**0.5534**	**3.0128**	**4.8219**	**0.0204**	**1.5333**	**0.0146**	**1.5479**	**0.4110**	**0.0136**	**0.4246**		**2,091.446 1**	**2,091.446 1**	**0.0799**		**2,093.443 4**

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

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3.5 Building Construction - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0783	2.7160	0.6417	7.5800e-003	0.1920	4.9800e-003	0.1970	0.0553	4.7700e-003	0.0601		810.1774	810.1774	0.0476		811.3673
Worker	0.4751	0.2968	4.1802	0.0129	1.3413	9.5900e-003	1.3509	0.3557	8.8300e-003	0.3646		1,281.268 7	1,281.269 7	0.0323		1,282.076 1
Total	**0.5534**	**3.0128**	**4.8219**	**0.0204**	**1.5333**	**0.0146**	**1.5479**	**0.4110**	**0.0136**	**0.4246**		**2,091.446 1**	**2,091.446 1**	**0.0799**		**2,093.443 4**

3.6 Paving - Phase 1 - 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	1.1028	11.1249	14.5805	0.0226		0.5679	0.5679		0.5225	0.5225		2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0226**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.660 3**	**2,207.660 3**	**0.7140**		**2,225.510 4**

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3.6 Paving - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0261	0.9053	0.2139	2.5300e-003	0.0640	1.6800e-003	0.0657	0.0184	1.5900e-003	0.0200		270.0591	270.0591	0.0159		270.4558
Worker	0.1584	0.0989	1.3934	4.2900e-003	0.4471	3.2000e-003	0.4503	0.1186	2.9400e-003	0.1215		427.0896	427.0896	0.0108		427.3587
Total	**0.1845**	**1.0043**	**1.6073**	**6.8200e-003**	**0.5111**	**4.8600e-003**	**0.5160**	**0.1370**	**4.5300e-003**	**0.1415**		**697.1487**	**697.1487**	**0.0266**		**697.8145**

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	1.1028	11.1249	14.5806	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

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3.6 Paving - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0261	0.9053	0.2139	2.5300e-003	0.0648	1.6600e-003	0.0657	0.0184	1.5900e-003	0.0200		270.0591	270.0591	0.0159		270.4560
Worker	0.1584	0.0989	1.3934	4.2900e-003	0.4471	3.2000e-003	0.4503	0.1186	2.9400e-003	0.1215		427.0896	427.0896	0.0108		427.3587
Total	**0.1845**	**1.0043**	**1.6073**	**6.8200e-003**	**0.5111**	**4.8600e-003**	**0.5160**	**0.1370**	**4.5300e-003**	**0.1415**		**697.1487**	**697.1487**	**0.0266**		**697.8145**

3.7 Architectural Coating - Phase 1 - 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					
Archit. Coating	48.8375					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2046	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**49.0421**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.7 Architectural Coating - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0527	1.8107	0.4278	5.0600e-003	0.1280	3.3300e-003	0.1313	0.0368	3.1800e-003	0.0400		540.1183	540.1183	0.0317		540.9115
Worker	0.3163	0.1978	2.7868	8.5700e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		854.1791	854.1791	0.0215		854.7174
Total	**0.3690**	**2.0085**	**3.2146**	**0.0136**	**1.0222**	**9.7200e-003**	**1.0319**	**0.2740**	**9.0700e-003**	**0.2831**		**1,394.2974**	**1,394.2974**	**0.0533**		**1,395.6289**

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	48.8375					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2046	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**49.0421**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.7 Architectural Coating - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0522	1.8107	0.4278	5.0600e-003	0.1280	3.3300e-003	0.1313	0.0369	3.1800e-003	0.0400		540.1183	540.1183	0.0317		540.9115
Worker	0.3168	0.1978	2.7866	8.5700e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		854.1791	854.1791	0.0215		854.7174
Total	**0.3690**	**2.0085**	**3.2146**	**0.0136**	**1.0222**	**9.7200e-003**	**1.0319**	**0.2740**	**9.0700e-003**	**0.2831**		**1,394.2974**	**1,394.2974**	**0.0533**		**1,395.6289**

3.8 Demolition - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0936	0.0000	2.0936	0.3170	0.0000	0.3170			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**2.0936**	**0.9975**	**3.0912**	**0.3170**	**0.9280**	**1.2450**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

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3.8 Demolition - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0441	1.4618	0.4663	7.0100e-003	0.1589	2.7100e-003	0.1716	0.0463	2.5900e-003	0.0489		760.9963	760.9963	0.0464		762.2050
Vendor	0.0779	2.7377	0.7709	9.7900e-003	0.2960	3.0000e-003	0.2591	0.0737	2.9400e-003	0.0766		1,047.470 9	1,047.470 9	0.0559		1,048.854 3
Worker	0.3723	0.2238	3.2170	0.0103	1.1179	7.7600e-003	1.1256	0.2964	7.1700e-003	0.3036		1,027.930 2	1,027.930 2	0.0243		1,028.537 0
Total	0.4942	4.4234	4.4541	0.0271	1.5427	0.0136	1.5563	0.4164	0.0127	0.4291		2,836.397 4	2,836.397 4	0.1260		2,839.596 3

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					2.0936	0.0000	2.0936	0.3170	0.0000	0.3170			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.984 0	3,746.984 0	1.0494		3,773.218 3
Total	2.2691	21.4844	19.6434	0.0388	2.0936	0.9975	3.0912	0.3170	0.9280	1.2450	0.0000	3,746.984 0	3,746.984 0	1.0494		3,773.218 3

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3.8 Demolition - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0441	1.4619	0.4663	7.0100e-003	0.1689	2.7100e-003	0.1716	0.0463	2.5900e-003	0.0489		760.9963	760.9963	0.0484		762.2060
Vendor	0.0779	2.7377	0.7709	9.7900e-003	0.2560	3.0800e-003	0.2591	0.0737	2.9400e-003	0.0766		1,047.470 9	1,047.470 9	0.0553		1,048.854 9
Worker	0.3723	0.2238	3.2170	0.0103	1.1178	7.7800e-003	1.1256	0.2964	7.1700e-003	0.3036		1,027.930 2	1,027.930 2	0.0243		1,028.537 0
Total	**0.4942**	**4.4234**	**4.4541**	**0.0271**	**1.5427**	**0.0136**	**1.5563**	**0.4164**	**0.0127**	**0.4291**		**2,836.397 4**	**2,836.397 4**	**0.1280**		**2,839.596 3**

3.9 Site Preparation - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2143	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	**2.6595**	**27.5242**	**18.2143**	**0.0381**	**18.0663**	**1.2660**	**19.3323**	**9.9307**	**1.1647**	**11.0954**		**3,687.308 1**	**3,687.308 1**	**1.1926**		**3,717.121 9**

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3.9 Site Preparation - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0389	1.3689	0.3954	4.9000e-003	0.1230	1.6400e-003	0.1295	0.0369	1.4700e-003	0.0383		523.7354	523.7354	0.0277		524.4272
Worker	0.4467	0.2985	3.8804	0.0124	1.3413	9.3400e-003	1.3507	0.3557	8.6000e-003	0.3643		1,233.516 2	1,233.516 2	0.0291		1,234.244 4
Total	**0.4857**	**1.6374**	**4.2458**	**0.0173**	**1.4693**	**0.0109**	**1.4802**	**0.3926**	**0.0101**	**0.4026**		**1,757.251 6**	**1,757.251 6**	**0.0568**		**1,758.671 6**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.0663**	**1.2660**	**19.3323**	**9.9307**	**1.1647**	**11.0954**	**0.0000**	**3,687.308 1**	**3,687.308 1**	**1.1926**		**3,717.121 9**

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3.9 Site Preparation - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0389	1.3689	0.3854	4.9000e-003	0.1280	1.5400e-003	0.1295	0.0368	1.4700e-003	0.0383		523.7354	523.7354	0.0277		524.4272
Worker	0.4467	0.2685	3.8604	0.0124	1.3413	9.3400e-003	1.3507	0.3557	8.6000e-003	0.3643		1,233.516 2	1,233.516 2	0.0291		1,234.244 4
Total	**0.4857**	**1.6374**	**4.2458**	**0.0173**	**1.4693**	**0.0109**	**1.4802**	**0.3926**	**0.0101**	**0.4026**		**1,757.251 6**	**1,757.251 6**	**0.0568**		**1,758.671 6**

3.10 Grading - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5981	0.0000	6.5981	3.3744	0.0000	3.3744			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.691 0	2,872.691 0	0.9291		2,895.918 2
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.5981**	**0.7749**	**7.3730**	**3.3744**	**0.7129**	**4.0873**		**2,872.691 0**	**2,872.691 0**	**0.9291**		**2,895.918 7**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.10 Grading - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2306	7.6512	2.4404	0.0367	0.0841	0.0142	0.0983	0.2423	0.0136	0.2559		3,983.0472	3,983.0472	0.2530		3,989.3732
Vendor	0.0389	1.3689	0.3854	4.9000e-003	0.1280	1.5400e-003	0.1295	0.0369	1.4700e-003	0.0383		523.7354	523.7354	0.0277		524.4272
Worker	0.5957	0.3500	5.1471	0.0085	1.7884	0.0125	1.8009	0.4743	0.0115	0.4858		1,644.6883	1,644.6883	0.0389		1,645.6592
Total	**0.8652**	**9.3701**	**7.9729**	**0.0501**	**2.0005**	**0.0282**	**2.0287**	**0.7534**	**0.0265**	**0.7799**		**6,151.4709**	**6,151.4709**	**0.3196**		**6,159.4596**

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					6.5981	0.0000	6.5981	3.3744	0.0000	3.3744			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.5981**	**0.7749**	**7.3730**	**3.3744**	**0.7129**	**4.0873**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.10 Grading - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2306	7.6512	2.4404	0.0367	0.8841	0.0142	0.8983	0.2423	0.0136	0.2559		3,983.0472	3,983.0472	0.2530		3,989.3732
Vendor	0.0389	1.3689	0.3654	4.9000e-003	0.1280	1.5400e-003	0.1295	0.0368	1.4700e-003	0.0383		523.7354	523.7354	0.0277		524.4272
Worker	0.5957	0.3580	5.1471	0.0165	1.7884	0.0125	1.8009	0.4743	0.0115	0.4858		1,644.6883	1,644.6883	0.0388		1,645.6592
Total	**0.8657**	**9.3781**	**7.9729**	**0.0581**	**2.8005**	**0.0282**	**2.8287**	**0.7534**	**0.0265**	**0.7799**		**6,151.4709**	**6,151.4709**	**0.3196**		**6,159.4596**

3.11 Building Construction - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.11 Building Construction - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1168	4.1066	1.1563	0.0147	0.3940	4.6200e-003	0.3986	0.1106	4.4100e-003	0.1150		1,571.206 3	1,571.206 3	0.0830		1,573.281 5
Worker	1.1169	0.6713	9.6509	0.0309	3.3533	0.0234	3.3767	0.8893	0.0215	0.9108		3,083.790 5	3,083.790 5	0.0728		3,085.611 0
Total	**1.2337**	**4.7779**	**10.8072**	**0.0456**	**3.7373**	**0.0280**	**3.7653**	**0.9999**	**0.0259**	**1.0258**		**4,654.996 8**	**4,654.996 8**	**0.1558**		**4,658.892 5**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.11 Building Construction - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1168	4.1066	1.1583	0.0147	0.3840	4.6200e-003	0.3886	0.1106	4.4100e-003	0.1150		1,571.2063	1,571.2063	0.0830		1,573.2816
Worker	1.1169	0.6713	9.6509	0.0309	3.3533	0.0234	3.3767	0.0890	0.0215	0.9108		3,083.7905	3,083.7905	0.0728		3,085.6110
Total	**1.2337**	**4.7779**	**10.8072**	**0.0456**	**3.7373**	**0.0280**	**3.7653**	**0.9999**	**0.0259**	**1.0258**		**4,654.9968**	**4,654.9968**	**0.1558**		**4,658.8925**

3.11 Building Construction - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4436	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4436**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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3.11 Building Construction - Phases 2 and 3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1144	4.0964	1.1230	0.0146	0.3940	4.5700e-003	0.3986	0.1106	4.3700e-003	0.1149		1,565.509 7	1,565.509 7	0.0917		1,567.652 6
Worker	1.0570	0.6119	9.0151	0.0299	3.3533	0.0230	3.3763	0.8893	0.0212	0.9106		2,982.626 6	2,982.626 6	0.0868		2,984.295 7
Total	**1.1714**	**4.7082**	**10.1382**	**0.0445**	**3.7373**	**0.0276**	**3.7649**	**0.9999**	**0.0256**	**1.0254**		**4,548.136 5**	**4,548.136 5**	**0.1485**		**4,551.848 3**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.698 9	2,555.698 9	0.6044		2,570.807 7
Total	**1.4716**	**13.4438**	**16.1660**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.698 9**	**2,555.698 9**	**0.6044**		**2,570.807 7**

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3.11 Building Construction - Phases 2 and 3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1144	4.0964	1.1230	0.0146	0.3840	4.5700e-003	0.3886	0.1106	4.3700e-003	0.1149		1,565.509 7	1,565.509 7	0.0817		1,567.552 6
Worker	1.0570	0.6118	9.0151	0.0299	3.3533	0.0230	3.3763	0.8893	0.0212	0.9105		2,982.626 8	2,982.626 8	0.0588		2,984.295 7
Total	**1.1714**	**4.7082**	**10.1382**	**0.0445**	**3.7373**	**0.0276**	**3.7649**	**0.9999**	**0.0256**	**1.0254**		**4,548.136 5**	**4,548.136 5**	**0.1405**		**4,551.848 3**

3.12 Paving - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.12 Paving - Phases 2 and 3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0381	1.3655	0.3743	4.8700e-003	0.1280	1.5200e-003	0.1295	0.0369	1.4800e-003	0.0383		521.8365	521.8365	0.0272		522.5175
Worker	0.2819	0.1631	2.4040	7.9800e-003	0.8942	6.1500e-003	0.9004	0.2372	5.6800e-003	0.2428		795.3672	795.3672	0.0178		795.8122
Total	**0.3200**	**1.5286**	**2.7784**	**0.0129**	**1.0222**	**7.6700e-003**	**1.0299**	**0.2740**	**7.1200e-003**	**0.2811**		**1,317.2037**	**1,317.2037**	**0.0450**		**1,318.3297**

Mitigated Construction On-Site

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

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.12 Paving - Phases 2 and 3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0381	1.3665	0.3743	4.8700e-003	0.1280	1.5200e-003	0.1295	0.0369	1.4600e-003	0.0383		521.8365	521.8365	0.0272		522.5175
Worker	0.2819	0.1631	2.4040	7.9800e-003	0.8942	6.1500e-003	0.9004	0.2372	5.6600e-003	0.2428		795.3672	795.3672	0.0178		795.8122
Total	**0.3200**	**1.5296**	**2.7784**	**0.0129**	**1.0222**	**7.6700e-003**	**1.0299**	**0.2740**	**7.1200e-003**	**0.2811**		**1,317.2037**	**1,317.2037**	**0.0450**		**1,318.3297**

3.13 Architectural Coating - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	49.9733					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1806	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**50.1540**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.13 Architectural Coating - Phases 2 and 3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0762	2.7310	0.7487	9.7500e-003	0.2560	3.0500e-003	0.2591	0.0737	2.9100e-003	0.0766		1,043.673 1	1,043.673 1	0.0545		1,045.035 0
Worker	0.8456	0.4894	7.2121	0.0239	2.6826	0.0184	2.7011	0.7115	0.0170	0.7284		2,386.101 5	2,386.101 5	0.0534		2,387.436 6
Total	0.9218	3.2204	7.9608	0.0337	2.9386	0.0215	2.9601	0.7852	0.0199	0.8050		3,429.774 6	3,429.774 6	0.1079		3,432.471 6

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	49.9733					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	50.1540	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

3.13 Architectural Coating - Phases 2 and 3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0762	2.7310	0.7487	9.7500e-003	0.2560	3.0500e-003	0.2591	0.0737	2.9100e-003	0.0766		1,043.673 1	1,043.673 1	0.0545		1,045.035 0
Worker	0.8456	0.4894	7.2121	0.0239	2.6826	0.0184	2.7011	0.7115	0.0170	0.7284		2,386.101 5	2,386.101 5	0.0534		2,387.436 6
Total	0.9218	3.2204	7.9608	0.0337	2.9386	0.0215	2.9601	0.7852	0.0199	0.8050		3,429.774 6	3,429.774 6	0.1079		3,432.471 6

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Summer

	ROG	NOx	CO	SO2	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	3.9048	17.6168	43.6820	0.1781	15.5725	0.1246	15.6971	4.1668	0.1157	4.2815		18,192.40 41	18,192.40 41	0.7958		18,212.30 01
Unmitigated	3.9048	17.6168	43.6820	0.1781	15.5725	0.1246	15.6971	4.1668	0.1157	4.2815		18,192.40 41	18,192.40 41	0.7958		18,212.30 01

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,362.34	1,304.48	1326.52	4,601,434	4,601,434
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	899.51	1,478.02	1018.88	1,352,980	1,352,980
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	263.17	306.60	171.62	554,321	554,321
Total	2,516.01	3,089.10	2,516.00	6,508,735	6,508,735

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.40	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Enclosed Parking with Elevator	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
High Turnover (Sit Down Restaurant)	0.551380	0.042151	0.204257	0.114483	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Other Asphalt Surfaces	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Regional Shopping Center	0.551380	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1195	1.0380	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.740 4	1,303.740 4	0.0250	0.0239	1,311.487 9
NaturalGas Unmitigated	0.1195	1.0380	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.740 4	1,303.740 4	0.0250	0.0239	1,311.487 9

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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					
Apartments Mid Rise	8234.03	0.0888	0.7588	0.3229	4.8400e-003		0.0614	0.0614		0.0614	0.0614		968.7097	968.7097	0.0186	0.0178	974.4663
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	2807.76	0.0303	0.2753	0.2312	1.6500e-003		0.0209	0.0209		0.0209	0.0209		330.3248	330.3248	6.3300e-003	6.0600e-003	332.2877
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
Regional Shopping Center	40	4.3000e-004	3.9200e-003	3.2900e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		4.7059	4.7059	9.0000e-005	9.0000e-005	4.7339
Total		**0.1195**	**1.0380**	**0.5574**	**6.5100e-003**		**0.0826**	**0.0826**		**0.0826**	**0.0826**		**1,303.740 4**	**1,303.740 4**	**0.0250**	**0.0239**	**1,311.487 9**

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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					
Apartments Mid Rise	8.23403	0.0888	0.7588	0.3229	4.8400e-003		0.0614	0.0614		0.0614	0.0614		968.7097	968.7097	0.0186	0.0178	974.4663
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	2.80776	0.0303	0.2763	0.2312	1.6500e-003		0.0209	0.0209		0.0209	0.0209		330.3248	330.3248	6.3300e-003	6.0600e-003	332.2677
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
Regional Shopping Center	0.04	4.3000e-004	3.9200e-003	3.2900e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		4.7059	4.7059	9.0000e-005	9.0000e-005	4.7339
Total		**0.1195**	**1.0390**	**0.5574**	**6.5100e-003**		**0.0826**	**0.0826**		**0.0826**	**0.0826**		**1,303.7404**	**1,303.7404**	**0.0250**	**0.0239**	**1,311.4679**

6.0 Area Detail

6.1 Mitigation Measures Area

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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	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.5499	4.1819	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.0716	5,058.0716	0.1341	0.0920	5,088.8429
Unmitigated	8.5499	4.1819	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.0716	5,058.0716	0.1341	0.0920	5,088.8429

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	0.6158					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.8145					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4601	3.3314	1.6729	0.0251		0.3179	0.3179		0.3179	0.3179	0.0000	5,018.8235	5,018.8235	0.0962	0.0920	5,048.6479
Landscaping	0.6595	0.8505	21.7605	1.1500e-003		0.1206	0.1206		0.1206	0.1206		39.2480	39.2480	0.0379		40.1950
Total	**8.5499**	**4.1819**	**23.4334**	**0.0262**		**0.4384**	**0.4384**		**0.4384**	**0.4384**	**0.0000**	**5,058.0716**	**5,058.0716**	**0.1341**	**0.0920**	**5,088.8429**

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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	0.6168					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.8145					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4601	3.9314	1.6729	0.0251		0.3179	0.3179		0.3179	0.3179	0.0000	5,018.823 5	5,018.823 5	0.0962	0.0920	5,048.647 9
Landscaping	0.6685	0.2505	21.7605	1.1500e-003		0.1206	0.1206		0.1206	0.1206		39.2480	39.2480	0.0379		40.1950
Total	**8.5499**	**4.1819**	**23.4334**	**0.0262**		**0.4384**	**0.4384**		**0.4384**	**0.4384**	**0.0000**	**5,058.071 6**	**5,058.071 6**	**0.1341**	**0.0920**	**5,088.842 9**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

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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

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Pacific Coast Commons Specific Plan Project
South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	792.00	Space	0.00	316,900.00	0
Other Asphalt Surfaces	12.65	1000sqft	0.00	12,650.00	0
High Turnover (Sit Down Restaurant)	4.95	1000sqft	0.00	3,952.00	0
Apartments Mid Rise	263.00	Dwelling Unit	0.00	327,021.00	752
Regional Shopping Center	7.30	1000sqft	5.35	7,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	561.77	**CH4 Intensity (lb/MWhr)**	0.09	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding underestimated land use sizes.

Construction Phase - Consistent with the DEIR's model.

Trips and VMT - See SWAPE comment regarding hauling trips. Worker and vendor trips consistent with the DEIR's model.

On-road Fugitive Dust -

Demolition - See SWAPE comment regarding demolition.

Grading - See SWAPE comment regarding acres of grading values, material mositure content, and material silt content. Material export consistent with the DEIR's model.

Architectural Coating - Architectural coating EFs consistent with the DEIR's model. See SWAPE comment regarding architectural coating areas.

Vehicle Trips - See SWAPE comment regarding operational vehicle trip rates.

Woodstoves - Consistent with the DEIR's model.

Area Coating - See SWAPE comment regarding area coating areas.

Energy Use -

Water And Wastewater - See SWAPE comment regarding wastewater treatment percentages.

Construction Off-road Equipment Mitigation - See SWAPE comment regarding construction-related mitigation measures.

Mobile Land Use Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	230.00	262.00

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tblConstructionPhase	NumDays	230.00	195.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	10.00	22.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	223.55	237.00
tblFireplaces	NumberNoFireplace	26.30	26.00
tblFireplaces	NumberWood	13.15	0.00
tblGrading	MaterialExported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	4,950.00	3,952.00
tblLandUse	LandUseSquareFeet	263,000.00	327,021.00
tblLandUse	LotAcreage	7.13	0.00
tblLandUse	LotAcreage	0.29	0.00
tblLandUse	LotAcreage	0.11	0.00
tblLandUse	LotAcreage	6.92	0.00
tblLandUse	LotAcreage	0.17	5.35
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.02
tblProjectCharacteristics	CO2IntensityFactor	702.44	561.77
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	84.00	60.00

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tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	84.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	332.00	300.00
tblTripsAndVMT	WorkerTripNumber	15.00	60.00
tblTripsAndVMT	WorkerTripNumber	66.00	240.00
tblTripsAndVMT	WorkerTripNumber	18.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00
tblTripsAndVMT	WorkerTripNumber	332.00	120.00
tblTripsAndVMT	WorkerTripNumber	15.00	40.00
tblTripsAndVMT	WorkerTripNumber	66.00	80.00
tblTripsAndVMT	WorkerTripNumber	15.00	100.00
tblTripsAndVMT	WorkerTripNumber	18.00	120.00
tblTripsAndVMT	WorkerTripNumber	15.00	160.00
tblVehicleTrips	HS_TTP	19.20	19.40
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	4.96
tblVehicleTrips	ST_TR	158.37	298.59
tblVehicleTrips	ST_TR	49.97	42.00

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tblVehicleTrips	SU_TR	5.06	5.04
tblVehicleTrips	SU_TR	131.84	205.83
tblVehicleTrips	SU_TR	25.24	23.51
tblVehicleTrips	WD_TR	6.65	5.18
tblVehicleTrips	WD_TR	127.15	178.80
tblVehicleTrips	WD_TR	42.70	36.05
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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					
2021	4.1481	41.5977	25.8913	0.0665	18.6891	2.0506	20.7397	10.0973	1.8866	11.9839	0.0000	6,679.6906	6,679.6906	1.2240	0.0000	6,710.2910
2022	50.7478	21.9734	20.8622	0.0463	7.5106	0.9490	8.4595	3.6231	0.8731	4.4962	0.0000	4,539.1601	4,539.1601	0.9660	0.0000	4,556.4875
2023	3.1913	29.1780	26.1645	0.0859	19.5356	1.2770	20.8126	10.3233	1.1749	11.4981	0.0000	8,828.7568	8,828.7569	1.2565	0.0000	8,860.1679
2024	52.5051	18.1841	26.2624	0.0698	3.9608	0.6411	4.5196	1.0592	0.6027	1.6025	0.0000	6,984.7665	6,984.7665	0.6830	0.0000	7,006.8408
Maximum	**52.5051**	**41.5977**	**26.2624**	**0.0859**	**19.5356**	**2.0506**	**20.8126**	**10.3233**	**1.8866**	**11.9839**	**0.0000**	**8,828.7568**	**8,828.7568**	**1.2565**	**0.0000**	**8,860.1679**

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2.1 Overall Construction (Maximum Daily Emission)

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					
2021	4.1481	41.5977	25.8913	0.0656	18.6891	2.0506	20.7397	10.0973	1.8866	11.9839	0.0000	6,679.6906	6,679.6906	1.2240	0.0000	6,710.2910
2022	50.7478	21.9734	20.8622	0.0463	7.5106	0.9490	8.4595	3.6231	0.8731	4.4962	0.0000	4,539.1601	4,539.1601	0.9660	0.0000	4,556.4875
2023	3.1913	29.1780	26.1645	0.0859	19.5356	1.2770	20.8126	10.3233	1.1749	11.4981	0.0000	8,828.7568	8,828.7568	1.2565	0.0000	8,860.1679
2024	52.5051	18.1841	26.2624	0.0698	3.9608	0.6411	4.5196	1.0592	0.6027	1.6025	0.0000	6,984.7665	6,984.7665	0.6830	0.0000	7,006.8408
Maximum	**52.5051**	**41.5977**	**26.2624**	**0.0859**	**19.5356**	**2.0506**	**20.8126**	**10.3233**	**1.8866**	**11.9839**	**0.0000**	**8,828.7568**	**8,828.7568**	**1.2565**	**0.0000**	**8,860.1679**

	ROG	NOx	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

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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	8.5499	4.1519	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.071 6	5,058.071 6	0.1341	0.0920	5,089.842 9
Energy	0.1196	1.0360	0.6574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.740 4	1,303.740 4	0.0250	0.0239	1,311.487 9
Mobile	3.6801	17.7866	41.3613	0.1686	15.5725	0.1253	15.6978	4.1650	0.1163	4.2821		17,222.02 26	17,222.02 26	0.0030		17,242.09 77
Total	**12.3496**	**23.0063**	**65.3421**	**0.2013**	**15.5725**	**0.6463**	**16.2188**	**4.1650**	**0.6374**	**4.8031**	**0.0000**	**23,583.83 45**	**23,583.83 45**	**0.9621**	**0.1159**	**23,642.42 85**

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	8.5499	4.1919	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.071 6	5,058.071 6	0.1341	0.0920	5,089.842 9
Energy	0.1196	1.0360	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.740 4	1,303.740 4	0.0250	0.0239	1,311.487 9
Mobile	3.6801	17.7866	41.3613	0.1686	15.5725	0.1253	15.6978	4.1650	0.1163	4.2821		17,222.02 26	17,222.02 26	0.0030		17,242.09 77
Total	**12.3496**	**23.0063**	**65.3421**	**0.2013**	**15.5725**	**0.6463**	**16.2188**	**4.1650**	**0.6374**	**4.8031**	**0.0000**	**23,583.83 45**	**23,583.83 45**	**0.9621**	**0.1159**	**23,642.42 85**

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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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition - Phase 1	Demolition	10/1/2021	10/31/2021	5	21	
2	Site Preparation - Phase 1	Site Preparation	11/1/2021	11/30/2021	5	22	
3	Grading - Phase 1	Grading	12/1/2021	1/31/2022	5	44	
4	Building Construction - Phase 1	Building Construction	2/1/2022	10/31/2022	5	195	
5	Paving - Phase 1	Paving	11/1/2022	12/31/2022	5	44	
6	Architectural Coating - Phase 1	Architectural Coating	11/1/2022	12/31/2022	5	44	
7	Demolition - Phases 2 and 3	Demolition	1/1/2023	2/28/2023	5	42	
8	Site Preparation - Phases 2 and 3	Site Preparation	3/1/2023	3/30/2023	5	22	
9	Grading - Phases 2 and 3	Grading	4/1/2023	5/30/2023	5	42	
10	Building Construction - Phases 2 and 3	Building Construction	6/1/2023	5/31/2024	5	262	
11	Paving - Phases 2 and 3	Paving	6/1/2024	7/31/2024	5	43	
12	Architectural Coating - Phases 2 and 3	Architectural Coating	6/1/2024	7/31/2024	5	43	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 662,218; Residential Outdoor: 220,739; Non-Residential Indoor: 18,378; Non-Residential Outdoor: 6,126; Striped Parking Area: 19,767 (Architectural Coating – sqft)

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition - Phase 1	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - Phase 1	Excavators	3	8.00	158	0.38
Demolition - Phase 1	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation - Phase 1	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation - Phase 1	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading - Phase 1	Excavators	1	8.00	158	0.38
Grading - Phase 1	Graders	1	8.00	187	0.41
Grading - Phase 1	Rubber Tired Dozers	1	8.00	247	0.40
Grading - Phase 1	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction - Phase 1	Cranes	1	7.00	231	0.29
Building Construction - Phase 1	Forklifts	3	8.00	89	0.20
Building Construction - Phase 1	Generator Sets	1	8.00	84	0.74
Building Construction - Phase 1	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction - Phase 1	Welders	1	8.00	46	0.45
Paving - Phase 1	Pavers	2	8.00	130	0.42
Paving - Phase 1	Paving Equipment	2	8.00	132	0.36
Paving - Phase 1	Rollers	2	8.00	80	0.38
Architectural Coating - Phase 1	Air Compressors	1	6.00	78	0.48
Demolition - Phases 2 and 3	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - Phases 2 and 3	Excavators	3	8.00	158	0.38
Demolition - Phases 2 and 3	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation - Phases 2 and 3	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation - Phases 2 and 3	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading - Phases 2 and 3	Excavators	1	8.00	158	0.38
Grading - Phases 2 and 3	Graders	1	8.00	187	0.41

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

Grading - Phases 2 and 3	Rubber Tired Dozers		1	8.00	247	0.40
Grading - Phases 2 and 3	Tractors/Loaders/Backhoes		3	8.00	97	0.37
Building Construction - Phases 2 and 3	Cranes		1	7.00	231	0.29
Building Construction - Phases 2 and 3	Forklifts		3	8.00	89	0.20
Building Construction - Phases 2 and 3	Generator Sets		1	8.00	84	0.74
Building Construction - Phases 2 and 3	Tractors/Loaders/Backhoes		3	7.00	97	0.37
Building Construction - Phases 2 and 3	Welders		1	8.00	46	0.45
Paving - Phases 2 and 3	Pavers		2	8.00	130	0.42
Paving - Phases 2 and 3	Paving Equipment		2	8.00	132	0.36
Paving - Phases 2 and 3	Rollers		2	8.00	80	0.38
Architectural Coating - Phases 2 and 3	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
Demolition - Phase 1	6	60.00	20.00	406.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation - Phase 1	7	50.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phase 1	6	80.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phase 1	9	120.00	30.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving - Phase 1	6	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - Phase 1	1	60.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition - Phases 2 and 3	6	100.00	40.00	408.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation - Phases 2 and 3	7	120.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phases 2 and 3	6	160.00	20.00	2,125.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phases 2 and 3	9	300.00	60.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving - Phases 2 and 3	6	80.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - Phases 2 and 3	1	240.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.1 Mitigation Measures Construction

3.2 Demolition - Phase 1 - 2021

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					4.1873	0.0000	4.1873	0.6340	0.0000	0.6340			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**4.1873**	**1.5513**	**5.7386**	**0.6340**	**1.4411**	**2.0751**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.2 Demolition - Phase 1 - 2021

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	0.1443	4.9483	1.1115	0.0145	0.3378	0.0154	0.3532	0.0926	0.0147	0.1073		1,574.111 0	1,574.111 0	0.1115		1,576.898 8
Vendor	0.0586	1.9015	0.5066	4.9600e-003	0.1280	3.9800e-003	0.1320	0.0368	3.7900e-003	0.0406		529.1004	529.1004	0.0354		529.9854
Worker	0.3690	0.2398	2.7082	8.3100e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0600e-003	0.2432		828.5343	828.5343	0.0222		829.0894
Total	**0.5718**	**7.0905**	**4.3263**	**0.0278**	**1.3600**	**0.0259**	**1.3860**	**0.3666**	**0.0246**	**0.3912**		**2,931.745 6**	**2,931.745 6**	**0.1691**		**2,935.973 6**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1873	0.0000	4.1873	0.6340	0.0000	0.6340			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**4.1873**	**1.5513**	**5.7386**	**0.6340**	**1.4411**	**2.0751**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.2 Demolition - Phase 1 - 2021

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	0.1443	4.9499	1.1115	0.0145	0.3378	0.0154	0.3532	0.0926	0.0147	0.1073		1,574.111 0	1,574.111 0	0.1115		1,576.898 8
Vendor	0.0586	1.9015	0.5066	4.9600e-003	0.1280	3.9600e-003	0.1320	0.0369	3.7900e-003	0.0406		529.1004	529.1004	0.0354		529.9854
Worker	0.3690	0.2389	2.7083	8.3100e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0600e-003	0.2432		828.5343	828.5343	0.0222		829.0894
Total	**0.5718**	**7.0905**	**4.3263**	**0.0278**	**1.3600**	**0.0259**	**1.3860**	**0.3666**	**0.0246**	**0.3912**		**7,931.745 6**	**2,931.745 6**	**0.1691**		**2,935.973 6**

3.3 Site Preparation - Phase 1 - 2021

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

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3.3 Site Preparation - Phase 1 - 2021

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
Vendor	0.0293	0.9597	0.2533	2.4800e-003	0.0640	1.9800e-003	0.0660	0.0184	1.9000e-003	0.0203		264.5502	264.5502	0.0177		264.9927
Worker	0.2306	0.1498	1.6927	5.2000e-003	0.5589	4.1100e-003	0.5630	0.1482	3.7900e-003	0.1520		517.8339	517.8339	0.0139		518.1809
Total	**0.2599**	**1.1096**	**1.9460**	**7.6800e-003**	**0.6229**	**6.0900e-003**	**0.6290**	**0.1667**	**5.6900e-003**	**0.1723**		**782.3841**	**782.3841**	**0.0316**		**783.1736**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

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3.3 Site Preparation - Phase 1 - 2021

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
Vendor	0.0293	0.9507	0.2533	2.4800e-003	0.0540	1.9800e-003	0.0560	0.0184	1.9000e-003	0.0203		264.5502	264.5502	0.0177		264.9927
Worker	0.2306	0.1498	1.6927	5.2000e-003	0.5689	4.1100e-003	0.5630	0.1482	3.7900e-003	0.1520		517.8339	517.8339	0.0139		518.1809
Total	**0.2599**	**1.1006**	**1.9460**	**7.6000e-003**	**0.6229**	**6.0900e-003**	**0.6290**	**0.1667**	**5.6900e-003**	**0.1723**		**702.3841**	**702.3841**	**0.0316**		**703.1736**

3.4 Grading - Phase 1 - 2021

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.4 Grading - Phase 1 - 2021

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
Vendor	0.0293	0.9587	0.2533	2.4800e-003	0.0640	1.9800e-003	0.0660	0.0184	1.9000e-003	0.0203		264.5502	264.5502	0.0177		264.9927
Worker	0.3689	0.2398	2.7083	8.3100e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0600e-003	0.2432		828.5343	828.5343	0.0222		829.0894
Total	**0.3982**	**1.1985**	**2.9616**	**0.0108**	**0.9582**	**8.5600e-003**	**0.9668**	**0.2556**	**7.9600e-003**	**0.2635**		**1,093.0845**	**1,093.0845**	**0.0399**		**1,094.0821**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.4 Grading - Phase 1 - 2021

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
Vendor	0.0293	0.9507	0.2533	2.4800e-003	0.0640	1.9900e-003	0.0660	0.0184	1.9000e-003	0.0203		264.5502	264.5502	0.0177		264.9927
Worker	0.3689	0.2398	2.7083	8.3100e-003	0.8942	6.5800e-003	0.9008	0.2372	6.0600e-003	0.2432		828.5343	828.5343	0.0222		829.0884
Total	0.3982	1.1905	2.9616	0.0108	0.9582	8.5600e-003	0.9668	0.2556	7.9600e-003	0.2635		1,093.084 5	1,093.084 5	0.0399		1,094.082 1

3.4 Grading - Phase 1 - 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.046 4	2,872.046 4	0.9289		2,895.268 4
Total	1.9486	20.8551	15.2727	0.0297	6.5523	0.9409	7.4932	3.3675	0.8656	4.2331		2,872.046 4	2,872.046 4	0.9289		2,895.268 4

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.4 Grading - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0275	0.9017	0.2385	2.4500e-003	0.0640	1.7200e-003	0.0657	0.0184	1.6400e-003	0.0201		262.1947	262.1947	0.0170		262.6199
Worker	0.3470	0.2165	2.4988	8.0100e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		798.8292	798.8292	0.0201		799.3306
Total	**0.3745**	**1.1182**	**2.7393**	**0.0105**	**0.9582**	**8.1100e-003**	**0.9663**	**0.2556**	**7.5300e-003**	**0.2631**		**1,061.023 4**	**1,061.023 4**	**0.0371**		**1,061.950 4**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.046 4	2,872.046 4	0.9289		2,895.268 4
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5523**	**0.9409**	**7.4932**	**3.3675**	**0.8656**	**4.2331**	**0.0000**	**2,872.046 4**	**2,872.046 4**	**0.9289**		**2,895.268 4**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.4 Grading - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0275	0.9017	0.2395	2.4500e-003	0.0640	1.7200e-003	0.0657	0.0184	1.6400e-003	0.0201		262.1942	262.1942	0.0170		262.6199
Worker	0.3470	0.2165	2.4998	8.0100e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		798.8292	798.8292	0.0201		799.3305
Total	**0.3745**	**1.1182**	**2.7393**	**0.0105**	**0.9582**	**8.1100e-003**	**0.9663**	**0.2556**	**7.5300e-003**	**0.2631**		**1,061.023 4**	**1,061.023 4**	**0.0371**		**1,061.950 4**

3.5 Building Construction - Phase 1 - 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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.5 Building Construction - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0024	2.7062	0.7185	7.3600e-003	0.1920	5.1600e-003	0.1972	0.0553	4.9300e-003	0.0602		706.5027	706.5027	0.0511		707.0598
Worker	0.5205	0.3248	3.7497	0.0120	1.3413	9.5900e-003	1.3509	0.3557	8.8300e-003	0.3646		1,198.2438	1,198.2438	0.0301		1,198.9958
Total	**0.6029**	**3.0299**	**4.4682**	**0.0194**	**1.5333**	**0.0148**	**1.5481**	**0.4110**	**0.0138**	**0.4248**		**1,904.8265**	**1,904.8265**	**0.0812**		**1,906.0556**

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.5 Building Construction - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0824	2.7052	0.7185	7.3600e-003	0.1920	5.1500e-003	0.1972	0.0553	4.9300e-003	0.0602		786.5827	786.5827	0.0511		787.8598
Worker	0.5205	0.3246	3.7497	0.0120	1.3413	9.6900e-003	1.3509	0.3557	8.8800e-003	0.3646		1,198.243 8	1,198.243 8	0.0301		1,198.996 8
Total	**0.6029**	**3.0299**	**4.4682**	**0.0194**	**1.5333**	**0.0148**	**1.5481**	**0.4110**	**0.0138**	**0.4248**		**1,984.826 5**	**1,984.826 5**	**0.0812**		**1,986.855 6**

3.6 Paving - Phase 1 - 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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.660 3**	**2,207.660 3**	**0.7140**		**2,225.510 4**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.6 Paving - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0275	0.9017	0.2385	2.4500e-003	0.0640	1.7200e-003	0.0657	0.0184	1.6400e-003	0.0201		262.1942	262.1942	0.0170		262.6199
Worker	0.1735	0.1083	1.2409	4.0100e-003	0.4471	3.2000e-003	0.4503	0.1186	2.9400e-003	0.1215		399.4146	399.4146	0.0100		399.6853
Total	**0.2010**	**1.0100**	**1.4094**	**6.4600e-003**	**0.5111**	**4.9200e-003**	**0.5160**	**0.1370**	**4.5800e-003**	**0.1416**		**661.6088**	**661.6088**	**0.0271**		**662.2052**

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.660 3**	**2,207.660 3**	**0.7140**		**2,225.510 4**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.6 Paving - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0275	0.9017	0.2395	2.4500e-003	0.0640	1.7200e-003	0.0657	0.0184	1.6400e-003	0.0201		262.1942	262.1942	0.0170		262.6189
Worker	0.1735	0.1083	1.2499	4.0100e-003	0.4471	3.2000e-003	0.4503	0.1186	2.9400e-003	0.1215		399.4146	399.4146	0.0101		399.6663
Total	**0.2010**	**1.0100**	**1.4894**	**6.4600e-003**	**0.5111**	**4.9200e-003**	**0.5160**	**0.1370**	**4.5800e-003**	**0.1416**		**661.6088**	**661.6088**	**0.0271**		**662.2852**

3.7 Architectural Coating - Phase 1 - 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					
Archit. Coating	48.8375					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**49.0421**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.7 Architectural Coating - Phase 1 - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0550	1.8034	0.4790	4.8100e-003	0.1230	3.4400e-003	0.1314	0.0369	3.2900e-003	0.0401		524.3885	524.3885	0.0341		525.2399
Worker	0.3470	0.2165	2.4998	8.0100e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		798.8292	798.8292	0.0201		799.3305
Total	**0.4019**	**2.0199**	**2.9788**	**0.0129**	**1.0222**	**9.8300e-003**	**1.0321**	**0.2740**	**9.1800e-003**	**0.2832**		**1,323.2177**	**1,323.2177**	**0.0541**		**1,324.5704**

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	48.8375					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**49.0421**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.7 Architectural Coating - Phase 1 - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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
Vendor	0.0550	1.8034	0.4790	4.9100e-003	0.1230	2.4400e-003	0.1314	0.0369	3.2900e-003	0.0401		524.3885	524.3885	0.0341		525.2399
Worker	0.3470	0.2165	2.4998	8.0100e-003	0.8942	6.3900e-003	0.9006	0.2372	5.8900e-003	0.2430		798.8292	798.8292	0.0201		799.3305
Total	**0.4019**	**2.0199**	**2.9788**	**0.0129**	**1.0222**	**9.0300e-003**	**1.0321**	**0.2740**	**9.1800e-003**	**0.2832**		**1,323.2177**	**1,323.2177**	**0.0541**		**1,324.5704**

3.8 Demolition - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0936	0.0000	2.0936	0.3170	0.0000	0.3170			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**2.0936**	**0.9975**	**3.0912**	**0.3170**	**0.9280**	**1.2450**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

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3.8 Demolition - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0494	1.4687	0.4906	6.8800e-003	0.1689	2.7900e-003	0.1717	0.0463	2.6800e-003	0.0490		746.9002	746.9002	0.0500		748.1504
Vendor	0.0820	2.7202	0.8471	9.5100e-003	0.2560	3.2300e-003	0.2592	0.0737	3.0900e-003	0.0768		1,017.4465	1,017.4465	0.0590		1,018.9209
Worker	0.4091	0.2448	2.8799	9.6400e-003	1.1178	7.7800e-003	1.1256	0.2964	7.1700e-003	0.3036		961.2964	961.2964	0.0226		961.8610
Total	**0.5365**	**4.4337**	**4.2176**	**0.0260**	**1.5427**	**0.0138**	**1.5565**	**0.4164**	**0.0129**	**0.4293**		**2,725.6432**	**2,725.6432**	**0.1316**		**2,728.9323**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust					2.0936	0.0000	2.0936	0.3170	0.0000	0.3170			0.0000			0.0000
Off-Road	2.2691	21.4044	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4044**	**19.6434**	**0.0388**	**2.0936**	**0.9975**	**3.0912**	**0.3170**	**0.9280**	**1.2450**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.8 Demolition - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0454	1.4687	0.4906	6.6800e-003	0.1589	2.7800e-003	0.1717	0.0463	2.6600e-003	0.0490		746.9002	746.9002	0.0500		748.1504
Vendor	0.0820	2.7202	0.8471	9.6100e-003	0.2560	3.2300e-003	0.2592	0.0737	3.0900e-003	0.0768		1,017.446 6	1,017.446 6	0.0590		1,018.920 9
Worker	0.4091	0.2448	2.8799	9.6400e-003	1.1178	7.7800e-003	1.1256	0.2964	7.1700e-003	0.3036		961.2964	961.2964	0.0226		961.8610
Total	**0.5365**	**4.4337**	**4.2176**	**0.0260**	**1.5427**	**0.0138**	**1.5565**	**0.4164**	**0.0129**	**0.4293**		**2,725.643 2**	**2,725.643 2**	**0.1316**		**2,728.937 3**

3.9 Site Preparation - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.0663**	**1.2660**	**19.3323**	**9.9307**	**1.1647**	**11.0954**		**3,687.308 1**	**3,687.308 1**	**1.1926**		**3,717.121 9**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.9 Site Preparation - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0410	1.3601	0.4235	4.7600e-003	0.1260	1.5100e-003	0.1296	0.0369	1.5400e-003	0.0384		508.7233	508.7233	0.0295		509.4604
Worker	0.4908	0.2938	3.4559	0.0116	1.3413	9.3400e-003	1.3507	0.3557	8.6000e-003	0.3643		1,153.555 7	1,153.555 7	0.0271		1,154.233 2
Total	**0.5319**	**1.6538**	**3.8795**	**0.0163**	**1.4693**	**0.0110**	**1.4803**	**0.3926**	**0.0101**	**0.4027**		**1,662.279 0**	**1,662.279 0**	**0.0566**		**1,663.693 6**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.0663**	**1.2660**	**19.3323**	**9.9307**	**1.1647**	**11.0954**	**0.0000**	**3,687.308 1**	**3,687.308 1**	**1.1926**		**3,717.121 9**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.9 Site Preparation - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0410	1.3601	0.4226	4.7600e-003	0.1280	1.6100e-003	0.1296	0.0369	1.5400e-003	0.0384		508.7233	508.7233	0.0295		509.4804
Worker	0.4909	0.2936	3.4569	0.0116	1.3413	9.3400e-003	1.3507	0.3557	8.6000e-003	0.3643		1,153.555 7	1,153.555 7	0.0271		1,154.233 2
Total	**0.5319**	**1.6538**	**3.8795**	**0.0163**	**1.4693**	**0.0110**	**1.4803**	**0.3926**	**0.0101**	**0.4027**		**1,662.279 0**	**1,662.279 0**	**0.0566**		**1,663.693 6**

3.10 Grading - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5981	0.0000	6.5981	3.3744	0.0000	3.3744			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.691 0	2,872.691 0	0.9291		2,895.918 2
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.5981**	**0.7749**	**7.3730**	**3.3744**	**0.7129**	**4.0873**		**2,872.691 0**	**2,872.691 0**	**0.9291**		**2,895.918 2**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.10 Grading - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2374	7.6791	2.5678	0.0360	0.8841	0.0146	0.8986	0.2423	0.0139	0.2562		3,909.268 2	3,909.268 2	0.2617		3,915.811 7
Vendor	0.0410	1.3601	0.4235	4.7600e-003	0.1280	1.6100e-003	0.1295	0.0368	1.5400e-003	0.0384		508.7233	508.7233	0.0295		509.4604
Worker	0.6545	0.3917	4.6079	0.0154	1.7884	0.0125	1.8009	0.4743	0.0115	0.4859		1,538.074 3	1,538.074 3	0.0361		1,538.977 6
Total	**0.9329**	**9.4309**	**7.5992**	**0.0562**	**2.8005**	**0.0286**	**2.8291**	**0.7534**	**0.0269**	**0.7804**		**5,956.065 8**	**5,956.065 8**	**0.3274**		**5,964.249 7**

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					6.5981	0.0000	6.5981	3.3744	0.0000	3.3744			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.918 2
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.5981**	**0.7749**	**7.3730**	**3.3744**	**0.7129**	**4.0873**	**0.0000**	**2,872.691 0**	**2,872.691 0**	**0.9291**		**2,895.918 2**

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3.10 Grading - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2374	7.6871	2.5678	0.0360	0.8941	0.0146	0.9086	0.2423	0.0139	0.2562		3,909.268 2	3,909.268 2	0.2617		3,915.811 7
Vendor	0.0410	1.3601	0.4236	4.7600e-003	0.1280	1.6100e-003	0.1296	0.0369	1.5400e-003	0.0384		508.7233	508.7233	0.0295		509.4604
Worker	0.6545	0.3917	4.6079	0.0154	1.7784	0.0125	1.7909	0.4743	0.0115	0.4858		1,538.074 3	1,538.074 3	0.0361		1,538.977 6
Total	**0.9329**	**9.4389**	**7.5992**	**0.0562**	**2.8005**	**0.0286**	**2.8291**	**0.7534**	**0.0269**	**0.7804**		**5,956.865 8**	**5,956.865 8**	**0.3274**		**5,964.249 7**

3.11 Building Construction - Phases 2 and 3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

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3.11 Building Construction - Phases 2 and 3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1231	4.0803	1.2706	0.0143	0.3840	4.6400e-003	0.3889	0.1106	4.6300e-003	0.1152		1,526.169 9	1,526.169 9	0.0086		1,528.381 3
Worker	1.2272	0.7344	8.6398	0.0289	3.3533	0.0234	3.3767	0.8893	0.0215	0.9108		2,883.889 3	2,883.889 3	0.0679		2,885.583 0
Total	1.3502	4.8146	9.9105	0.0432	3.7373	0.0282	3.7655	0.9999	0.0261	1.0260		4,410.059 2	4,410.059 2	0.1562		4,413.964 3

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1

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3.11 Building Construction - Phases 2 and 3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1231	4.0803	1.2706	0.0143	0.3940	4.8400e-003	0.3988	0.1106	4.6300e-003	0.1152		1,526.169 9	1,526.169 9	0.0885		1,528.381 3
Worker	1.2272	0.7344	8.6399	0.0289	3.3433	0.0234	3.3667	0.8893	0.0215	0.9108		2,883.889 3	2,883.889 3	0.0678		2,885.583 0
Total	**1.3502**	**4.8146**	**9.9105**	**0.0432**	**3.7373**	**0.0282**	**3.7655**	**0.9999**	**0.0261**	**1.0260**		**4,410.059 2**	**4,410.059 2**	**0.1562**		**4,413.964 3**

3.11 Building Construction - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.698 9	2,555.698 9	0.6044		2,570.807 7
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.698 9**	**2,555.698 9**	**0.6044**		**2,570.807 7**

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3.11 Building Construction - Phases 2 and 3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1204	4.0714	1.2342	0.0142	0.3840	4.7700e-003	0.3888	0.1106	4.5600e-003	0.1151		1,520.9792	1,520.9792	0.0870		1,523.1541
Worker	1.0849	0.6690	8.0553	0.0280	3.3533	0.0228	3.3763	0.8893	0.0212	0.9105		2,788.8676	2,788.8676	0.0620		2,790.4183
Total	**1.2053**	**4.7403**	**9.2895**	**0.0422**	**3.7373**	**0.0276**	**3.7651**	**0.9999**	**0.0258**	**1.0256**		**4,309.8468**	**4,309.8468**	**0.1490**		**4,313.5724**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

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3.11 Building Construction - Phases 2 and 3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1204	4.0714	1.2342	0.0142	0.3840	4.7700e-003	0.3888	0.1106	4.5600e-003	0.1151		1,520.979 2	1,520.979 2	0.0870		1,523.154 1
Worker	1.1649	0.6690	8.0553	0.0280	3.3533	0.0230	3.3763	0.8893	0.0212	0.9105		2,788.867 6	2,788.867 6	0.0620		2,790.418 3
Total	**1.2853**	**4.7403**	**9.2895**	**0.0422**	**3.7373**	**0.0278**	**3.7651**	**0.9999**	**0.0258**	**1.0256**		**4,309.846 8**	**4,309.846 8**	**0.1490**		**4,313.572 4**

3.12 Paving - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.12 Paving - Phases 2 and 3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0401	1.3571	0.4114	4.7400e-003	0.1230	1.6900e-003	0.1295	0.0369	1.5200e-003	0.0384		506.9931	506.9931	0.0290		507.7190
Worker	0.3106	0.1784	2.1481	7.4800e-003	0.8942	6.1500e-003	0.9004	0.2372	5.6600e-003	0.2429		743.6980	743.6980	0.0165		744.1115
Total	**0.3508**	**1.5355**	**2.5595**	**0.0122**	**1.0222**	**7.7400e-003**	**1.0300**	**0.2740**	**7.1800e-003**	**0.2812**		**1,250.691 1**	**1,250.691 1**	**0.0455**		**1,251.829 6**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0226		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0226**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.12 Paving - Phases 2 and 3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0401	1.3571	0.4114	4.7400e-003	0.1280	1.5900e-003	0.1296	0.0369	1.5200e-003	0.0384		506.9931	506.9931	0.0290		507.7160
Worker	0.3106	0.1784	2.1481	7.4600e-003	0.8942	6.1500e-003	0.9004	0.2372	5.6800e-003	0.2428		743.6980	743.6980	0.0165		744.1115
Total	**0.3508**	**1.5355**	**2.5595**	**0.0122**	**1.0222**	**7.7400e-003**	**1.0300**	**0.2740**	**7.1800e-003**	**0.2812**		**1,250.6911**	**1,250.6911**	**0.0455**		**1,251.8296**

3.13 Architectural Coating - Phases 2 and 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	49.9733					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**50.1540**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.13 Architectural Coating - Phases 2 and 3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0803	2.7142	0.8228	9.4800e-003	0.2560	3.1800e-003	0.2592	0.0737	3.0400e-003	0.0767		1,013.986 1	1,013.986 1	0.0580		1,015.436 1
Worker	0.9319	0.5352	6.4443	0.0224	2.6826	0.0184	2.7011	0.7115	0.0170	0.7284		2,231.094 1	2,231.094 1	0.0496		2,232.334 6
Total	**1.0122**	**3.2494**	**7.2671**	**0.0319**	**2.9386**	**0.0216**	**2.9603**	**0.7852**	**0.0200**	**0.8052**		**3,245.080 2**	**3,245.080 2**	**0.1076**		**3,247.770 7**

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	49.9733					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**50.1540**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

3.13 Architectural Coating - Phases 2 and 3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0803	2.7142	0.8228	9.4800e-003	0.2560	3.1800e-003	0.2592	0.0737	3.0400e-003	0.0767		1,013.986 1	1,013.986 1	0.0580		1,015.436 1
Worker	0.9319	0.5352	6.4443	0.0224	2.6826	0.0184	2.7011	0.7115	0.0170	0.7284		2,231.094 1	2,231.094 1	0.0496		2,232.334 6
Total	**1.0122**	**3.2494**	**7.2671**	**0.0319**	**2.9386**	**0.0216**	**2.9603**	**0.7852**	**0.0200**	**0.8052**		**3,245.080 2**	**3,245.080 2**	**0.1076**		**3,247.770 7**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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Cont.

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

	ROG	NOx	CO	SO2	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	3.6801	17.7866	41.3513	0.1686	15.5725	0.1253	15.6978	4.1666	0.1163	4.2821		17,222.02 26	17,222.02 26	0.8030		17,242.09 77
Unmitigated	3.6801	17.7866	41.3513	0.1665	15.5726	0.1253	15.6978	4.1658	0.1163	4.2821		17,222.02 26	17,222.02 26	0.8030		17,242.09 77

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,362.34	1,304.48	1325.52	4,601,434	4,601,434
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	899.51	1,478.02	1018.88	1,352,980	1,352,980
Other Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	283.17	306.60	171.62	554,321	554,321
Total	2,516.01	3,089.10	2,516.00	6,508,735	6,508,735

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.40	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000713	0.000825
Enclosed Parking with Elevator	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000712	0.000825
High Turnover (Sit Down Restaurant)	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000712	0.000825
Other Asphalt Surfaces	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035698	0.002143	0.001676	0.004899	0.000713	0.000825
Regional Shopping Center	0.551360	0.042151	0.204257	0.114482	0.014139	0.005783	0.021875	0.035696	0.002143	0.001676	0.004899	0.000712	0.000825

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1195	1.0380	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.740 4	1,303.740 4	0.0250	0.0239	1,311.487 9
NaturalGas Unmitigated	0.1195	1.0380	0.5574	6.5200e-003		0.0826	0.0826		0.0826	0.0826		1,303.740 4	1,303.740 4	0.0250	0.0239	1,311.487 9

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

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					
Apartments Mid Rise	8234.03	0.0888	0.7588	0.3229	4.8400e-003		0.0614	0.0614		0.0614	0.0614		968.7097	968.7097	0.0186	0.0178	974.4663
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	2807.76	0.0303	0.2753	0.2312	1.6500e-003		0.0209	0.0209		0.0209	0.0209		330.3246	330.3246	6.3300e-003	6.0600e-003	332.2877
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
Regional Shopping Center	40	4.3000e-004	3.9200e-003	3.2900e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		4.7059	4.7059	9.0000e-005	9.0000e-005	4.7339
Total		**0.1195**	**1.0380**	**0.5574**	**6.5100e-003**		**0.0826**	**0.0826**		**0.0826**	**0.0826**		**1,303.740 4**	**1,303.740 4**	**0.0250**	**0.0239**	**1,311.487 9**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

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					
Apartments Mid Rise	8.23403	0.0888	0.7588	0.3229	4.8400e-003		0.0614	0.0614		0.0614	0.0614		968.7097	968.7097	0.0186	0.0178	974.4663
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	2.80776	0.0303	0.2753	0.2312	1.6500e-003		0.0209	0.0209		0.0209	0.0209		330.3248	330.3248	6.3300e-003	6.0600e-003	332.2677
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
Regional Shopping Center	0.04	4.3000e-004	3.9200e-003	3.2900e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		4.7059	4.7059	9.0000e-005	9.0000e-005	4.7339
Total		**0.1195**	**1.0380**	**0.5574**	**6.5100e-003**		**0.0826**	**0.0826**		**0.0826**	**0.0826**		**1,303.740 4**	**1,303.740 4**	**0.0250**	**0.0239**	**1,311.467 9**

6.0 Area Detail

6.1 Mitigation Measures Area

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

	ROG	NOx	CO	SO2	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	8.5499	4.1819	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.071 6	5,058.071 6	0.1341	0.0920	5,088.842 9
Unmitigated	8.5499	4.1819	23.4334	0.0263		0.4384	0.4384		0.4384	0.4384	0.0000	5,058.071 6	5,058.071 6	0.1341	0.0920	5,088.842 9

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	0.5168					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.8145					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4601	3.9314	1.6729	0.0251		0.3179	0.3179		0.3179	0.3179	0.0000	5,018.823 5	5,018.823 5	0.0962	0.0920	5,048.647 9
Landscaping	0.6585	0.2505	21.7605	1.1500e-003		0.1206	0.1206		0.1206	0.1206		39.2480	39.2480	0.0379		40.1950
Total	**8.5499**	**4.1819**	**23.4334**	**0.0262**		**0.4384**	**0.4384**		**0.4384**	**0.4384**	**0.0000**	**5,058.071 6**	**5,058.071 6**	**0.1341**	**0.0920**	**5,088.842 9**

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

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	0.6168					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.8145					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4601	3.9314	1.6729	0.0251		0.3179	0.3179		0.3179	0.3179	0.0000	5,019.823 5	5,019.823 5	0.0962	0.0920	5,049.647 9
Landscaping	0.6585	0.2506	21.7605	1.1500e-003		0.1206	0.1206		0.1206	0.1206		39.2400	39.2400	0.0379		40.1950
Total	**8.5499**	**4.1819**	**23.4334**	**0.0262**		**0.4384**	**0.4384**		**0.4384**	**0.4384**	**0.0000**	**5,059.071 6**	**5,059.071 6**	**0.1341**	**0.0920**	**5,089.842 9**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

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Pacific Coast Commons Specific Plan Project - South Coast AQMD Air District, Winter

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

2-14 Cont.

Attachment D

```
Start date and time  04/05/21 10:13:47
                              AERSCREEN 16216

Pacific Coast Commons Operation

            Pacific Coast Commons Operation

          ----------------- DATA ENTRY VALIDATION -----------------
                         METRIC            ENGLISH
 ** AREADATA **  ---------------     ----------------

 Emission Rate:    0.126E-02 g/s        0.998E-02 lb/hr

 Area Height:            3.00 meters         9.84 feet

 Area Source Length:  256.00 meters        839.90 feet

 Area Source Width:   101.00 meters        331.36 feet

 Vertical Dimension:    1.50 meters         4.92 feet

 Model Mode:           URBAN

 Population:           16731

 Dist to Ambient Air:           1.0 meters            3. feet

 ** BUILDING DATA **
```

2-14
Cont.

```
No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations

Source Base Elevation:   0.0 meters       0.0  feet

Probe distance:   5000. meters      16404. feet

No flagpole receptors

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature:  250.0 / 310.0 K   -9.7 /  98.3 Deg F

Minimum Wind Speed:    0.5 m/s
```

2-14
Cont.

Anemometer Height: 10.000 meters

Dominant Surface Profile: Urban

Dominant Climate Type: Average Moisture

Surface friction velocity (u*): not adjusted

DEBUG OPTION ON

AERSCREEN output file:

2021.04.05_PacificCoastCommons_Operation.out

*** AERSCREEN Run is Ready to Begin

No terrain used, AERMAP will not be run

****

SURFACE CHARACTERISTICS & MAKEMET

Obtaining surface characteristics...

2-14
Cont.

```
Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season            Albedo     Bo       zo

Winter             0.35     1.50    1.000

Spring             0.14     1.00    1.000

Summer             0.16     2.00    1.000

Autumn             0.18     2.00    1.000


Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl


Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl


Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl


Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl


Buildings and/or terrain present or rectangular area source, skipping probe


FLOWSECTOR   started 04/05/21 10:15:50
 ********************************************


  Running AERMOD
 Processing Winter


Processing surface roughness sector  1
```

2-14
Cont.

```
****************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP
```

2-14
Cont.

```
****************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15


    ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20


    ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25


    ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP
 *******************************************
```

2-14 Cont.

```
Running AERMOD

Processing Spring


Processing surface roughness sector  1


****************************************************

Processing wind flow sector   1


AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0


   ********   WARNING MESSAGES   ********

CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
 URB-POP

****************************************************

Processing wind flow sector   2


AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5


   ********   WARNING MESSAGES   ********

CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
 URB-POP

****************************************************

Processing wind flow sector   3


AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10
```

2-14
Cont.

```
   ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15


   ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20


   ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25
```

2-14
Cont.

```
   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP
 ******************************************


  Running AERMOD

 Processing Summer


Processing surface roughness sector  1


***************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0


   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

***************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5


   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP
```

2-14
Cont.

```
*****************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

*****************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

*****************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20


    ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

*****************************************************
```

2-14
Cont.

```
Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25


   ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP
 *******************************************


  Running AERMOD

 Processing Autumn


Processing surface roughness sector  1


****************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0


   ********   WARNING MESSAGES   ********

 CO W320      36       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5
```

2-14
Cont.

```
   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10


   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15


   ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20
```

2-14
Cont.

```
    ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

****************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25


    ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

FLOWSECTOR   ended 04/05/21 10:16:08


REFINE       started 04/05/21 10:16:08


 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0


    ********   WARNING MESSAGES   ********

 CO W320      36      URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP

REFINE       ended 04/05/21 10:16:11


 *********************************************

 AERSCREEN Finished Successfully

 But with Warnings
```

2-14
Cont.

```
Check log file for details
************************************************

Ending date and time  04/05/21 10:16:14
```

2-14
Cont.

```
 Concentration     Distance Elevation  Diag  Season/Month   Zo sector       Date
 H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS     HT
REF TA     HT
   0.14967E+01        1.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16113E+01       25.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17120E+01       50.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17982E+01       75.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18752E+01      100.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19374E+01      125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
*  0.19469E+01      129.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15401E+01      150.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12075E+01      175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.99699E+00      200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.85889E+00      225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.75015E+00      250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.66363E+00      275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.59258E+00      300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.53380E+00      325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.48434E+00      350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
```

2-14 Cont.

```
310.0    2.0
   0.44244E+00       375.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.40624E+00       400.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.37520E+00       425.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.34763E+00       450.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32366E+00       475.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.30234E+00       500.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28334E+00       525.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26642E+00       550.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25111E+00       575.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23713E+00       600.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22452E+00       625.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21308E+00       650.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20267E+00       675.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19310E+00       700.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18421E+00       725.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17597E+00       750.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16836E+00       775.00      0.00   0.0        Winter      0-360   10011001
```

2-14
Cont.

```
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16133E+00       800.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15481E+00       825.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14875E+00       850.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14310E+00       875.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13775E+00       900.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13275E+00       925.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12807E+00       950.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12367E+00       975.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11953E+00      1000.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11564E+00      1025.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11194E+00      1050.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10844E+00      1075.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10513E+00      1100.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10199E+00      1125.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.99015E-01      1150.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.96192E-01      1175.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
```

2-14
Cont.

```
   0.93475E-01      1200.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.90891E-01      1225.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.88430E-01      1250.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.86084E-01      1275.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.83846E-01      1300.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.81708E-01      1325.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.79664E-01      1350.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.77708E-01      1375.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.75836E-01      1400.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.74042E-01      1425.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.72321E-01      1450.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.70669E-01      1475.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.69083E-01      1500.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.67558E-01      1525.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.66092E-01      1550.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.64681E-01      1575.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.63317E-01      1600.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
```

2-14
Cont.

```
310.0    2.0
   0.62000E-01      1625.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.60731E-01      1650.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.59506E-01      1675.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.58324E-01      1700.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.57182E-01      1725.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.56075E-01      1750.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.55001E-01      1775.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.53963E-01      1800.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.52958E-01      1825.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.51986E-01      1850.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.51045E-01      1875.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.50132E-01      1900.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.49248E-01      1925.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.48906E-01      1950.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.48060E-01      1975.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.47239E-01      2000.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.46442E-01      2025.00      0.00   0.0        Winter      0-360   10011001
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Cont.

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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.45668E-01      2050.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.44916E-01      2075.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.44186E-01      2100.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.43475E-01      2125.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.42784E-01      2150.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.42112E-01      2175.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.41458E-01      2200.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.40822E-01      2225.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.40202E-01      2250.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.39598E-01      2275.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.39010E-01      2300.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.38437E-01      2325.00      0.00   5.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.37878E-01      2350.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.37334E-01      2375.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.36802E-01      2400.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.36284E-01      2425.00      0.00   5.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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Cont.

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   0.35778E-01      2450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.35284E-01      2475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.34802E-01      2500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.34331E-01      2525.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.33871E-01      2550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.33422E-01      2575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32983E-01      2600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32554E-01      2625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32134E-01      2650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.31723E-01      2675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.31322E-01      2700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.30930E-01      2725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.30545E-01      2750.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.30169E-01      2775.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29801E-01      2800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29441E-01      2825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29088E-01      2850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
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2-14
Cont.

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310.0    2.0
   0.28742E-01      2875.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28404E-01      2900.00      0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28072E-01      2925.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27747E-01      2950.00      0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27429E-01      2975.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27116E-01      3000.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26810E-01      3025.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26510E-01      3050.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26215E-01      3075.00      0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25927E-01      3100.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25643E-01      3125.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25365E-01      3150.00      0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25092E-01      3174.99      0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24824E-01      3199.99      0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24561E-01      3225.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24303E-01      3250.00      0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24050E-01      3275.00      0.00   0.0        Winter      0-360   10011001
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2-14
Cont.

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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23801E-01      3300.00      0.00   5.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23556E-01      3325.00      0.00  15.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23316E-01      3350.00      0.00   5.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23080E-01      3375.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22848E-01      3400.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22620E-01      3425.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22396E-01      3450.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22176E-01      3475.00      0.00  15.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21960E-01      3500.00      0.00  20.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21747E-01      3525.00      0.00  25.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21538E-01      3550.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21332E-01      3575.00      0.00  15.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21130E-01      3600.00      0.00  20.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20931E-01      3625.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20735E-01      3650.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20542E-01      3675.00      0.00   0.0       Winter      0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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2-14
Cont.

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   0.20352E-01      3700.00      0.00  20.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20166E-01      3724.99      0.00  20.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19982E-01      3750.00      0.00  25.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19801E-01      3775.00      0.00  25.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19623E-01      3800.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19448E-01      3825.00      0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19276E-01      3850.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19106E-01      3875.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18938E-01      3900.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18774E-01      3925.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18611E-01      3950.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18451E-01      3975.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18294E-01      4000.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18138E-01      4025.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17986E-01      4050.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17835E-01      4075.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17686E-01      4100.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.17540E-01      4125.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17396E-01      4149.99      0.00  20.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17253E-01      4175.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17113E-01      4200.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16974E-01      4225.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16838E-01      4250.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16703E-01      4275.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16571E-01      4300.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16440E-01      4325.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16311E-01      4350.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16184E-01      4375.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16058E-01      4400.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15934E-01      4425.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15812E-01      4450.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15691E-01      4475.00      0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15572E-01      4500.00      0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15454E-01      4525.00      0.00   0.0        Winter      0-360   10011001
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Cont.

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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15338E-01      4550.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15224E-01      4575.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15111E-01      4600.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14999E-01      4625.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14889E-01      4650.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14780E-01      4675.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14673E-01      4700.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14567E-01      4725.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14462E-01      4750.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14359E-01      4775.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14256E-01      4800.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14156E-01      4825.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14056E-01      4850.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13957E-01      4875.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13860E-01      4900.00      0.00   5.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13764E-01      4925.00      0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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2-14
Cont.

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   0.13669E-01      4950.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13575E-01      4975.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13482E-01      5000.00      0.00   0.0       Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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2-14 Cont.

Attachment E

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

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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 unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. 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. 2-15

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, 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 dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Paul E. Rosenfeld, Ph.D. Page **1** of **9** June 2020

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

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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.

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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.

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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.

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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.

2-15 Cont.

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 Conference*. 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.

2-15 Cont.

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. 2-15 Cont.

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 United States District Court For The Southern District of Illinois
Duarte et al, *Plaintiffs*, vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 3:19-cv-00302-SMY-GCS
Rosenfeld Deposition. 2-19-2020

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

2-15 Cont.

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 Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
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 Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 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

2-15
Cont.

Attachment F

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

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

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

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

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

Education:

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

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);

2-15 Cont.

- 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 150 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.

2-15 Cont.

- 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: 2-15 Cont.

- 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. 2-15 Cont.
- 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

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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).

2-15 Cont.

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.

2-15 Cont.

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.

2-15 Cont.

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

2-15 Cont.

Other Experience:

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

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Response to Comment Letter 2

Supporters Alliance for Environmental Responsibility
("SAFER", via Lozeau Drury LLP)
December 9, 2021

2-1 In summary, this comment includes an introductory statement for the comment letter and asserts the Final EIR does not adequately inform about or analyze environmental impacts, and does not impose feasible mitigation measures to reduce impacts. Additionally, the comment notes further comments within Comment Letter 2 were prepared with the assistance of Francis "Bud" Offermann, P.E., CIH (included as Comments 2-9 and 2-10). Please see Response to Comments 2-9 and 2-10 for more discussion. The comment does not raise any specific concerns related to the adequacy of the environmental analysis in the EIR; therefore, no further response to this comment is required.

2-2 In summary, this comment correctly summarizes the Project Description for the proposed Project. However, the comment states the site is bound by Los Angeles International Airport (LAX) to the north. For informational purposes, LAX is not located immediately adjacent to the Project site, but instead 0.5-mile to the north. The comment does not raise any specific concerns related to the adequacy of the environmental analysis in the EIR; therefore, no further response to this comment is required.

2-3 In summary, this comment cites various excerpts of case law and related to CEQA's legislative intent to inform decision makers and the public and avoid and reduce environmental impacts or adopt a statement of overriding considerations. The EIR for the proposed Project was prepared in compliance with CEQA and the CEQA Guidelines, codified in Title 14 of the California Code of Regulations, section 15000 *et seq.* The comment does not raise any specific concerns related to the adequacy of the environmental analysis in the EIR; therefore, no further response to this comment is required.

2-4 In summary, this comment states that the Project would expose residents and commercial employees of the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde.

Workers are not considered sensitive receptors under CEQA but are covered by the standards and protocols of the Occupational Health and Safety Administration (OSHA). Discussion of impacts on indoor air quality on future occupants of new construction is not specified or required by the City's CEQA Guidelines, State CEQA Guidelines, or California's air district guidelines. California air districts base their thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the air basin can accommodate without affecting the attainment date for the state and federal ambient air quality standards (AAQS). The AAQS is based on maximum pollutant levels in outdoor air that would not harm the public's health. Furthermore, the commenter speculates on indoor air quality associated with finishes used on building material and furniture. Indoor air quality does not rise to the level of substantial evidence because it is generalized and does not address the specific impacts of this Project. Building materials are required to reduce exposure to toxic substances through compliance with the U.S. Environmental Protection Agency and the California Air Resources Board regulations, such as 40 CFR Part 770, Formaldehyde Emission Standards for Composite Wood Products. The regulations typically apply to manufacturers, distributors, importers, fabricators, and retailers of the products. All building materials used for the project would be required to comply with the applicable federal and state standards.

The Project (both nonresidential and residential uses) will need to comply with the 2019 CALGreen Code, which specifies that composite wood products (such as hardwood plywood and particleboard) meet the requirements for formaldehyde as specified in the California Air Resources Board's Air Toxic Control Measures. The 2019 CALGreen building code also does not allow added formaldehyde-based resins or ultra-low emitting formaldehyde resins, and requires documentation of compliance with the California Air Resources Board's Air Toxic Control Measures. (See Section 5.504.4.5, Chapter 5, Part 11, 2019 California Green Building Standards Code, July 2019, incorporated herein by this reference.) Furthermore, the 2019 Title 24 standards increased the level of air filtration required for new residential construction, from minimum efficiency reporting value (MERV) 6 to MERV 13, per American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), with the stated goal of reducing indoor PM2.5 concentrations. To accommodate the higher efficiency filter requirements, the proposed changes would also require that return grilles be able to accommodate at least a 2-inch deep filter to ensure that MERV 13 filters can be installed with minimal impact on HVAC system performance. MERV 13 filters remove at least 90% of particles sized 3.0 and 10.0 microns, 85% of particles sized 1.0 to 3.0 microns, and 50% of particles sized 0.3 to 1.0 microns, which would minimize the potential for new residents to be exposed to substantial TAC and PM2.5 emissions. The commenter is speculating in the assertion that composite wood materials would be used in the interior of the building. Indoor building materials will not be known until the building permit stage, and as stated above, these materials will be required to comply with the California Air Resources Board and 2019 CALGreen building code.

The commenter's conclusions were not based on the assumption that the Project would be built in accordance with CARB's Air Toxic Control Measures and 2019 CALGreen building code. The commenter provides no evidence to substantiate a contrary conclusion that in spite of the proposed Project using materials that comply with the standards of the CARB's Air Toxic Control Measures, the proposed Project would still expose occupants to toxic substances that results in exceeding the SCAQMD CEQA significance health risk threshold. No changes to the Draft EIR is required.

2-5 In summary, this comment states that the SWRCC included a memorandum which concluded that there is Substantial Evidence that the Project will have significant adverse air quality, health risk, and GHG impacts.

The SWRCC letter has been responded to in full in Response to Comment Letter 1 (see Responses to Comments 1-1 through 1-53) in this document. As discussed in these responses, all comments raised have been addressed and no new significant environmental impacts were raised that were not adequately addressed through the Draft EIR.

2-6 The commenter states that there is substantial evidence that the Project may have a significant health impact as a result of DPM.

The SWRCC letter included similar assertions regarding DPM-related health risk. See Comment Letter 1 (Response to Comment 1-42) in this document. As discussed in this response, the comment raised has been addressed and no new significant environmental impacts were raised that were not adequately addressed through the Draft EIR.

2-7 The commenter states that they believe that the impact conclusions contained in the Draft EIR are inadequate. Specifically, the commenter states that the Project would result in significant impacts based on 1) The Draft EIR's quantitative GHG analysis relies upon an incorrect and unsubstantiated air model; 2) The Draft EIR's quantitative GHG analysis relies upon an outdated threshold; 3) The Draft EIR's unsubstantiated air model indicates a potentially significant impact; 4) The Draft EIR fails to consider the performance-based standards under CARB's Scoping Plan; and; 5) The Draft EIR fails to consider the performance-based standards under SCAG's RTP/SCS.

The SWRCC letter included similar assertions related to the Draft EIR's greenhouse gas emission analysis. See Comment Letter 1 (Response to Comment 1-43) in this document. As discussed in this response, the comment raised has been addressed and no new significant environmental impacts were raised that were not adequately addressed through the Draft EIR.

2-8 This comment notes the aforementioned comments (included as Comments 2-4 through 2-7) as reasons why the EIR is inadequate. Additionally, the comment expresses opposition to the proposed Project. The commenter's general opposition to the Project will be provided to the City's decision makers for their review and consideration.

2-9 The commenter states that the Project would expose residents and commercial employees of the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde.

Please see Response to Comment 2-4.

2-10 This comment includes the curriculum vitae of Francis "Bud" J. Offermann II, P.E., CIH. The comment does not express any environmental comments or concerns related to the environmental analysis in the Draft EIR. No response is required.

2-11 In summary, the comment states that the Draft EIR did not support its findings with substantial evidence.

This comment is a direct repeat of comments provided in Comment Letter 1 (see Responses to Comments 1-8 through 1-25). As discussed in the responses, the comments raised have been addressed and no new significant environmental impacts were raised that were not adequately addressed through the Draft EIR.

2-12 The commenter provides technical modeling to discuss the potential for local hire requirements to reduce the length of worker trips, and consequently, reduced or mitigate the potential GHG impacts.

This comment is interpreted to be a request that the City implement a "local hire" requirement on the proposed Project, citing benefits to greenhouse gas, air quality, and transportation impacts through decreased trip lengths. As stated in Draft EIR Sections 4.2, Air Quality, 4.6, Greenhouse Gas Emissions, and Section 4.13, Transportation, there are no significant short-term construction-related or long-term operational environmental impacts that are related to the length of vehicle trips or the proximity of workers to the Project site. CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 4.6.3, Thresholds of Significance. Construction of the proposed Project is anticipated to commence in October 2021 and reach completion in July 2024, lasting a total of 34 months.[3] On-site sources of GHG emissions include off-road equipment and off-

3 As explained in Section 4.2 of the Draft EIR, October 2021 represents the earliest possible start date. In practice, construction may begin at a later date. However, using an earlier start date for construction represents the worst-case scenario construction

site sources including haul trucks, vendor trucks, and worker vehicles. Overall, the Project was estimated to result in approximately 1,977 MT CO_2e per year and 66 MT CO_2e amortized over 30 years, consistent with SCAQMD guidance which states that construction emissions should be amortized over 30 years (SCAQMD 2008). Thus, the GHG analysis adds amortized construction emissions to the estimated annual operational emissions and then compares operational emissions to the proposed SCAQMD threshold of 3,000 MT CO_2e per year. As presented on Table 4.6-4 of the EIR, the Project's GHG emissions associated with development of the proposed Project would be 2,921 MT CO_2e, which is below the SCAQMD GHG threshold of 3,000 MT CO_2e per year. No changes to the Draft EIR are required and additional mitigation measures are not required to reduce GHG emissions. Therefore, there is no obligation under CEQA to consider implementation of skilled and trained workforce requirements, and no changes to the EIR are required.

2-13 This comment represents the curriculum vitae of Paul Rosenfeld, Ph.D., and Matt Hagemann, P.G., C.Hg. The comment does not express any environmental comments or concerns related to the environmental analysis in the Draft EIR. No response is required.

2-14 The commenter states that the input parameters of the air quality and GHG modeling are unsubstantiated.

This comment is a direct repeat of comments provided in Comment Letter 1 (see Responses to Comments 1-28 through 1-51). As discussed in the responses, the comments raised have been addressed and no new significant environmental impacts were raised that were not adequately addressed through the Draft EIR.

2-15 This comment represents the curriculum vitae of Paul Rosenfeld, Ph.D., and Matt Hagemann, P.G., C.Hg. The comment does not express any environmental comments or concerns related to the environmental analysis in the Draft EIR. No response is required.

impacts, because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles.

Verbal Comment 1

Verbal Comment 1

Nino Mascolo
Property Owner
December 9, 2021

The following represents a transcription of verbal comments provided at the December 9, 2021 Planning Commission meeting:

Water supply

The environmental impact report addresses and describes the capacity to provide water adequately however, does not address the topic of water quantity and water supply. There is a "will serve" letter from the utility, but that's all. There is analysis of the water supply. We have been in a drought for the last two years and the state is considering fines for those users not reducing their water consumption.

The environmental impact report did not address the drought. It did not address whether there will be incremental use increase or to what extent the project will use more water compared to the current water use under baseline conditions. Given the need to decrease water consumption statewide, that is a critical issue. This project increases water consumption, so the burden should fall on the developer not on the community to obtain additional water. 1-1

Parking

The environmental impact report appendices state that there will be a before and after parking study which is a good idea. But any impacts that occur because of the development impose a burden on the property owners, their guests, and the public to figure out what to do. The environmental impact report does not require the project developer to address any of those parking impacts. There is a suggestion that a parking permit program be implemented, but I don't know how practical it will be. I propose that the project's residents and employees be the ones required to obtain parking passes. They should be the ones ticketed for parking next to Washington Park, which is a popular destination, and not the existing residents in the neighborhood. It's not fair for property owners and their guests to be burdened. The staff report states that the project will have to meet less strict parking requirements. The project residents and users will not park in a parking structure (within the project area) that is far from their units. Instead, they will choose to park on the street which is more convenient. 1-2

Traffic

EIR Section 4.1 3.4 talks about intersections. It states that five intersections will remain at level E or worse with the project. The project should be mitigating those impacts. We should be asking the developer to make things a little better and not impose worse conditions on the neighbors. Appendix J says there will be 2,500 additional daily trips caused by the project but parking is not being addressed. 1-3

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Response to Verbal Comment 1

Nino Mascolo
Individual
December 9, 2021

1-1 In summary, this comment states the Draft EIR does not adequately address water quality and water supply under drought conditions. Additionally, the comment expresses concern with the Project's water consumption.

The commenter was not specific in their concerns related to water quality. Please see Draft EIR Section 4.8, Hydrology and Water Quality, for discussion related to existing regulations and Project-specific analysis related to water quality standards.

In summary, this comment states the Draft EIR does not analyze Project impacts to water supply. As mentioned by the commenter, a Water Supply Will Serve Letter (included as Appendix G-2 of the Draft EIR) was referenced in the Draft EIR's analysis. Appendix G-2 was prepared by the City's Water Department to support the analysis contained within Section 4.15, Utilities and Service Systems, of the Draft EIR and represents assurance for the Project's anticipated water demands by providing and requiring potable water connections. In return, the City will charge the Project Applicant various fees for providing potable water and wastewater services to serve the proposed Project (Draft EIR page 4.15-21). Additionally, the Draft EIR summarizes applicable components and cites the City's Urban Water Management Plan (UWMP), which provides scenarios for anticipated water supply and demand, including availability to serve during normal, dry, and multiple dry years. As detailed further in Section 4.15, it was determined that the City would be able to meet the demand proposed by the Project and result in less than significant impacts (Draft EIR pages 4.15-19 through 4.15-22). No change or addition to the EIR's environmental analyses are required.

1-2 In summary, this comment states comments related to parking. The comment expresses support for Appendix J-2 of the Draft EIR's conclusion suggesting the following:

> "A before and after study could be conducted on the adjacent residential streets to understand if the project has an effect on street parking. Based on the results of the study and if desired by the City and the residents in the adjacent neighborhoods, a residential parking district could be implemented to deter non-residential users from parking on the street." (Appendix J-2 page 14)

Moreover, the comment correctly states impacts to parking are not within the scope of the environmental analysis as required by CEQA. Nevertheless, this suggestion to provide parking permits for residents and employees will be provided to City decision makers for their review and consideration.

Additionally, the commenter suggests the Project's future residents and users would not park in the proposed parking structure, stating the structure is too far from the proposed units. For clarification, each area within the Project site would provide parking spaces as shown in Table 3-2, Conceptual Site Plan and Specific Plan Buildout Summary, within Chapter 3, Project Description, of the Draft EIR. No change or addition to the EIR's environmental analyses are required.

1-3 This comment notes discussion within the Section 4.13, Transportation, of the Draft EIR which states five study intersections are projected to operate at a level of service (LOS) E or worse during AM or PM peak periods under Future Plus Project conditions (Draft EIR pages 4.13-19 and 4.13-20). Moreover, the comment suggests mitigation should be incorporated to reduce impacts.

As discussed in Draft EIR Section 4.13, Project improvements are planned for the eastbound lane of Mariposa Avenue at PCH (see Development Standard C.1 of the Specific Plan), which would be reconfigured as a part of the proposed Project, from one left lane and one through-right lane to one left, one through, and one right-turn lane. This infrastructure improvement has been taken into account for the plus-Project scenarios of the environmental analysis. The plus-Project scenarios of the impact analysis have also been analyzed without the Project improvement to show its potential benefit when compared to the baseline conditions (Draft EIR page 4.13-15). The analysis shows that LOS at Mariposa Avenue and PCH is better with the addition of the Project-related improvement than without. A queuing analysis was conducted for the eastbound approach with and without Project improvement to show the potential improvement in queue length. The results of this analysis are shown in Appendix E of the TIA (Appendix J-1 of the Draft EIR) (Draft EIR page 4.13-19).

However, the commenter's concern for traffic congestion is no longer considered an environmental topic of concern under CEQA (California Public Resources Code Section 21099(b)(2)). The Draft EIR includes information on intersection operations and congestion level of service (i.e., LOS) for informational purposes only. The analysis is included as it relates to the applicability of General Plan policies (see Draft EIR, Section 4.13 and Appendix J-1). Although, automobile delay and traffic congestion are not considered to be impacts on the environment, analysis was prepared related to the Project's consistency with Section 15064.3(b) of the State CEQA Guidelines. No change or addition to the EIR's environmental analyses are required.

Verbal Comment 2

Verbal Comment 2

Byron Washum
December 9, 2021

The following represents a transcription of verbal comments provided at the December 9, 2021 Planning Commission meeting:

> I intend to provide written comments addressing parking and traffic impacts as well as the transformative change resulting from the project 2-1

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Response to Verbal Comment 2

Byron Washum
Individual
December 9, 2021

2-1 In summary, this comment states an intention to provide written comments addressing parking and traffic impacts as well as "transformative changes" resulting from the Project. Without specific comments related to the adequacy of the Draft EIR, no response is required.

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Verbal Comment 3

Verbal Comment 3

Ray Lawson
Southwest Regional Council of Carpenters
December 9, 2021

The following represents a transcription of verbal comments provided at the December 9, 2021 Planning Commission meeting:

> I am here on behalf of the Southwest Regional Carpenters union. We recommend hiring our members who live in the area to work on this and other projects, which helps to reduce impacts such as greenhouse gases. Our union helps provide a careers, training, a living wage and other benefits to local residents. 3-1

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Response to Verbal Comment 3

Ray Lawson
Southwest Regional Council of Carpenters
December 9, 2021

3-1 The commenter notes his representation with the Southwest Regional Carpenters union, and states hiring local members to work on the proposed Project would help reduce impacts to greenhouse gas emissions. The comment further details example benefits of the union. This comment does not express specific concerns related to the adequacy of the Draft EIR's environmental analysis. Nevertheless, the comment will be provided to City decision makers for their review and consideration.

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Verbal Comment 4

Verbal Comment 4

Paul Morrison
421 Indiana Street
December 9, 2021

The following represents a transcription of verbal comments provided at the December 9, 2021 Planning Commission meeting:

I live across from the proposed parking structure. 4-1

Displacement of residents

Table ES 1 in the environmental impact report which contains a summary of impacts states that the project will not displace a substantial number of people.

Noise and vibration will cause displacement

I believe that the project will have a lot of construction impacts such as noise, vibration, and air quality impacts from the use of heavy machinery, such as pile drivers and beams. As a result I and other nearby residents may be displaced by the project. The City may benefit economically from the project. I am a retired resident of 24 years. My rents today is very low. If I am displaced by the construction, I will be effectively banished from El Segundo because I will not be able to afford rent in the area after I return post construction. 4-2

The developer and the City have a moral obligation to long-term residents like myself. The City should consider mitigation for residents like me with lower incomes. Maybe we can revisit this project every six months or every year so we can track the potential impact on residents like myself. 4-3

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Response to Verbal Comment 4

Paul Morrison
Individual
December 9, 2021

4-1 This comment notes that he lives across for the proposed parking structure and expresses concerns with Project-related impacts, detailed below. This comment does not express specific concerns related to the adequacy of the Draft EIR's environmental analysis. Please see Responses to Comments 4-2 through 4-3 for more discussion.

4-2 This comment raises concern for the displacement of residents due to construction-related impacts associated with noise, vibration, and air quality, which would displace nearby residents. The Draft EIR analyzed impacts related to noise and vibration as well as air quality within Sections 4.10, Noise and 4.2, Air Quality, respectively. If impacts were determined to be potentially significant, mitigation was incorporated to reduce impacts to a less-than-significant level. All thresholds of significance for noise and air quality were reduced to be less than significant with the exception of Threshold 4.2(a), where it was determined that there is no feasible mitigation measure for population growth in the context of the assumptions underlying the Air Quality Management Plan. However, construction-related impacts associated with these environmental topic areas are not applicable to Threshold 4.11(b) regarding displacement of "substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere." Displacement refers to the physical displacement of people or housing. As described in Draft EIR Section 4.11, Population and Housing, no housing uses are located on the Project site and Project implementation would not require demolition of existing housing or displace people or housing. Construction-related impacts associated with the Project would not physically displace residents surrounding the Project site. No change or addition to the environmental analysis found within the Draft EIR is required.

4-3 In summary, this comment states the Project Applicant and the City should consider mitigation for residents with lower incomes. This comment does not express specific concerns related to the adequacy of the Draft EIR's environmental analysis. Furthermore, impacts to rents, for example, are outside the scope of CEQA. Per Section 15064(e) of the State CEQA Guidelines, "economic and social changes resulting from a project shall not be treated as significant effects on the environment."

In conclusion, the comment suggests periodic evaluation of the potential impacts as a result of the proposed Project. In accordance with CEQA Guidelines Section 15097, to ensure that the mitigation measures identified in the EIR are implemented, the City must adopt a program for monitoring or reporting on the measures it has imposed to mitigate or avoid significant environmental effects. The "mitigation monitoring and reporting program" is monitored by the City to ensure that all mitigation measures have been implemented to the satisfaction of the City. Additionally, the comment regarding periodic evaluation will be provided to City decision makers for their review and consideration.

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Verbal Comment 5

Verbal Comment 5

Amalia Fuentes
December 9, 2021

The following represents a transcription of verbal comments provided at the December 9, 2021 Planning Commission meeting:

Indoor air quality

Referenced a written letter that was submitted on April 12, 2021 that has substantial evidence of a significant health risk impact from indoor air quality issues. Case law determines that agencies should study impacts on projects' residents. Future residents of the project will be exposed to a cancer risk of 120/1,000,000. Project employees will be exposed to a cancer risk of 17.7/1,000,000. Both of these exceed the California environmental quality act threshold of 10/1,000,000. This assumes that all the material will meet air quality management district regulations. 5-1

Diesel emissions

In addition to interior air quality impacts, the project will have diesel particulate matter impacts on sensitive receptors within 125 meters of the project site. These sensitive receptors will be exposed to a cancer risk of 79/1,000,000 which also exceeds the related threshold. 5-2

Greenhouse emissions

In addition, the environmental impact report has flaws in the calculations of greenhouse gas emissions from the project. 5-3

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Response to Verbal Comment 5

Amalia Fuentes
Supporters Alliance for Environmental Responsibility ("SAFER")
Individual
December 9, 2021

5-1 The commenter referenced a written letter that was submitted on April 12, 2021 that has substantial evidence of a significant health risk impact from indoor air quality issues. Case law determines that agencies should study impacts on projects' residents. Future residents of the project will be exposed to a cancer risk of 120/1,000,000. Project employees will be exposed to a cancer risk of 17.7/1,000,000. Both of these exceed the California environmental quality act threshold of 10/1,000,000. This assumes that all the material will meet air quality management district regulations.

Workers are not considered sensitive receptors under CEQA but are covered by the standards and protocols of the Occupational Health and Safety Administration (OSHA). Discussion of impacts on indoor air quality on future occupants of new construction is not specified or required by the City's CEQA Guidelines, State CEQA Guidelines, or California's air district guidelines. California air districts base their thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the air basin can accommodate without affecting the attainment date for the state and federal ambient air quality standards (AAQS). The AAQS is based on maximum pollutant levels in outdoor air that would not harm the public's health. Furthermore, building materials are required to reduce exposure to toxic substances through compliance with the U.S. Environmental Protection Agency and the California Air Resources Board regulations, such as 40 CFR Part 770, Formaldehyde Emission Standards for Composite Wood Products. The regulations typically apply to manufacturers, distributors, importers, fabricators, and retailers of the products. All building materials used for the project would be required to comply with the applicable federal and state standards.

The Project (both nonresidential and residential uses) will need to comply with the 2019 CALGreen Code, which specifies that composite wood products (such as hardwood plywood and particleboard) meet the requirements for formaldehyde as specified in the California Air Resources Board's Air Toxic Control Measures. The 2019 CALGreen building code also does not allow added formaldehyde-based resins or ultra-low emitting formaldehyde resins and requires documentation of compliance with the California Air Resources Board's Air Toxic Control Measures. (See Section 5.504.4.5, Chapter 5, Part 11, 2019 California Green Building Standards Code, July 2019, incorporated herein by this reference.) Furthermore, the 2019 Title 24 standards increased the level of air filtration required for new residential construction, from minimum efficiency reporting value (MERV) 6 to MERV 13, per American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), with the stated goal of reducing indoor $PM_{2.5}$ concentrations. To accommodate the higher efficiency filter requirements, the proposed changes would also require that return grilles be able to accommodate at least a 2-inch deep filter to ensure that MERV 13 filters can be installed with minimal impact on HVAC system performance. MERV 13 filters remove at least 90% of particles sized 3.0 and 10.0 microns, 85% of particles sized 1.0 to 3.0 microns, and 50% of particles sized 0.3 to 1.0 microns, which would minimize the potential for new residents to be exposed to substantial TAC and $PM_{2.5}$ emissions. Furthermore, building materials will be required to comply with the California Air Resources Board and 2019 CALGreen building code.

The commenter's conclusions were not based on the assumption that the Project would be built in accordance with CARB's Air Toxic Control Measures and 2019 CALGreen building code. The commenter provides no evidence to substantiate a contrary conclusion that in spite of the proposed Project using materials that comply with the standards of the CARB's Air Toxic Control Measures, the proposed Project would still expose occupants to toxic substances that results in exceeding the SCAQMD CEQA significance health risk threshold. No changes to the Draft EIR is required.

5-2 The commenter states the Project will have DPM impacts on sensitive receptors within 125 meters of the project site. These sensitive receptors will be exposed to a cancer risk of 79/1,000,000 which also exceeds the related threshold.

Construction health risks were evaluated in the Draft EIR using the EPA and SCAQMD refined model, known as American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD). This model takes into account meteorological data and topographical data. It also accounts for the geography of a project site, locations of emissions sources, the time of day emissions would occur, locations of sensitive receptors, and other factors, which represents the real world environment. Based on the construction HRA using this refined model, AERMOD, using AERMOD methodologies from the SCAQMD, and using the age sensitivity factors and other health risk evaluation parameters recommended by the SCAQMD and the Office of Environmental Health Hazard Assessment (OEHHA), health risk impacts were determined to be less than the SCAQMD significance thresholds for cancer risk and non-cancer chronic risk for DPM after implementation of MM-AQ-1, which would require the use of Tier 4 interim equipment for all construction equipment greater than 75 horsepower.

The analysis assumes a construction start date of October 2021, which represented the earliest date of construction when air quality and GHG assessments were initiated.[4] Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years. Tier 4 standards for engine horsepower between 11 horsepower and 75 horsepower were available starting in 2008. For engines with horsepower between 75 and 175, Tier 4 engines were available starting in 2012. For engine horsepower between 175 and greater than 1,200, Tier 4 engines were available starting in 2011. As such, equipment engines that meet Tier 4 emission standards are currently available at the time of this analysis, and would continue to be available during the Project's construction years (through 2024). Please refer to the US EPA's Nonroad Compression-Ignition Engines: Exhaust Emission Standards for details (available: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100OA05.pdf).

Furthermore, an exemption from using Tier 4 equipment may be granted by the City of El Segundo if the Project proponent documents that equipment with the required tier is not reasonably available and provided corresponding reductions in criteria air pollutant emissions are achieved from other construction equipment. For example, if a Tier 4 Interim piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead (e.g., Tier 3), another piece of equipment would be replaced with an alternative-fueled (not diesel-fueled) equipment to offset the

4 As explained in Section 4.2 of the Draft EIR, October 2021 represents the earliest possible start date. In practice, construction may begin at a later date. However, using an earlier start date for construction represents the worst-case scenario construction impacts, because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles.

emissions associated with using a piece of equipment that does not meet Tier 4 standards. As such, the use of the air quality modeling results is correct and is appropriately relied upon. The Draft EIR adequately evaluated the proposed Project's potential health risk impacts from construction and determined that they would be less than significant after implementation of MM-AQ-1.

Therefore, based on the above considerations the Draft EIR's health risk analysis is adequate as presented.

5-3 The commenter states that the Draft EIR has flaws in the calculations of GHG from the Project.

The SWRCC letter included similar assertions related to the Draft EIR's greenhouse gas emission analysis. See Comment Letter 1 (Response to Comment 1-29) in this document. As discussed in this response, the comment raised has been addressed and no new significant environmental impacts were raised that were not adequately addressed through the Draft EIR.

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Verbal Comment 6

Verbal Comment 6

Maria Barron
Resident
December 9, 2021

The following represents a transcription of verbal comments provided at the December 9, 2021 Planning Commission meeting:

I live at 1628 E. Palm Ave. 6-1

Noise, pollution and parking.

I concur with all the concerns that were mentioned by the previous speakers. I am concerned about noise, pollution, and parking. 6-2

Parking permits.

However, I disagree with the suggestion that the project residents should get the parking permits. Instead I think it will be best for existing residents in the area to have parking permits so they can park on the street. 6-3

Noise and pollution from the project will be unbearable for nearby residents. 6-4

The City previously had a program to provide double-paned windows to residents and my residence qualified for this program. However, the program ran out of funds. So, we won't be getting them. I recommend that the city revisit the program to provide a double-paned windows for residents. 6-5

I believe the project proposes too many apartment units and the proposed buildings and parking structures are too tall. 6-6

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Response to Verbal Comment 6

Maria Barron
Individual
December 9, 2021

6-1 This comment provided the resident's address, which is within the vicinity of the Project site. However, this comment does not express specific concerns related to the adequacy of the Draft EIR's environmental analysis. No response is required.

6-2 The comment expresses similar concerns as mentioned by other speakers related to noise, pollution, and parking. The comment does not express specific concerns related to the adequacy of the Draft EIR's environmental analysis. For informational purposes, the Sections 4.10 (Noise), 4.2 (Air Quality), 4.8 (Hydrology and Water Quality), and 4.13 (Transportation) address the aforementioned areas of concern. No further response is required.

6-3 This comment disagrees with the suggestion made by Nino Mascolo (see Response to Comment 1-2) regarding parking permits for Project residents. Instead, this comment suggests parking permits should be given to existing residents surrounding the Project site to allow for parking on the street. This comment does not express specific concerns related to the adequacy of the Draft EIR's environmental analysis. No response is required. Nevertheless, this comment will be provided to City decision makers for their review and consideration.

6-4 In summary, this comment states Project-related impacts associated with noise and pollution will be "unbearable" for nearby residents. The Draft EIR analyzed Project-related impacts in accordance with the State CEQA Guidelines and existing relevant plans, policies, and programs. As mentioned above, Sections 4.10 (Noise), 4.2 (Air Quality), and 4.8 (Hydrology and Water Quality) address the aforementioned environmental topics of concern. Impact determinations are summarized in Table ES-1 as mentioned previously. If impacts were determined to be potentially significant, mitigation was incorporated to reduce impacts to a less-than-significant level. All thresholds of significance for noise, air quality, and hydrology and water quality were reduced to be less than significant with the exception of Threshold 4.2(a), where it was determined that there is no feasible mitigation measure for population growth in the context of assumptions used for the SCAQMD's Air Quality Management Plan. Nevertheless, this comment will be provided to City decision makers for their review and consideration.

6-5 This comment notes a City program that provided double-paned windows to residents. However, the comment states the program ended and asks for the program to be restored. This comment does not express specific concerns related to the adequacy of the Draft EIR's environmental analysis. No response is required. Nevertheless, this comment will be provided to City decision makers for their review and consideration.

6-6 In summary, this comment states opposition to the Project's proposed residential unit count and proposed height. The commenter's general opposition to the Project will be provided to the City's decision makers for their review and consideration.

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Verbal Comment 7

Verbal Comment 7

Matthew Klemp
Resident
December 9, 2021

The following represents a transcription of verbal comments provided at the December 9, 2021 Planning Commission meeting:

Corner of Washington Street and Elm Avenue.

I previously submitted two letters commenting on the environmental impact report but I have not received a response other than that they will be included in the record

My concerns related to noise, parking, and traffic. 7-1

The Environmental impact report makes some questionable key assumptions. A lot hinges on a lot of people walking to the downtown, or walking to mass transit, or taking mass transit. But that has not been the case here in El Segundo or in the Los Angeles area. It would be great if we had mass transit available, but it is not here. 7-2

Reduced parking requirements

In addition, a lot hinges on the assumption that two people living in one unit will use only a single car. That does not meet El Segundo's current parking standards. In addition, no one really walks from Pacific Coast Highway to downtown El Segundo. In addition, traffic on Mariposa Avenue is backed up especially when making a left turn onto Pacific Coast Highway. So, the additional traffic will make things worse on Mariposa Avenue. In addition, the environmental impact report excludes single-family homes from the sensitive receptors of unwanted noise. 7-3

High density and traffic/parking

The project brings high density residential to this neighborhood that already has a parking and traffic problem. Adding all those units in this small area will make park parking and traffic is much worse 7-4

Alternative sites.

Why can't we rezone somewhere else in the city to accommodate all these new residents. 95% of residents in the city live in approximately 25% of the city's area. South of Grand Avenue and east of Pacific Coast Highway would be appropriate places to rezone and would take away a lot of the objections to the project if those alternative site where evaluated and developed. 7-5

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Response to Verbal Comment 7

Matthew Klemp
Individual
December 9, 2021

7-1 In summary, this comment states he lives nearby the Project site. In addition, the commenter notes two previously submitted letters on the Draft EIR but states no response other than they would be included in the administrative record was made. Please see Response to Comment I-21 within Chapter 2, Responses to Comments, of the Final EIR for more discussion on previously submitted comments from "Matthew Klemp".

Additionally, the comment expresses concern related to noise, parking, and traffic. The Draft EIR analyzed Project-related impacts in accordance with the State CEQA Guidelines and existing relevant plans, policies, and programs. Sections 4.10 (Noise) and 4.13 (Transportation) address the aforementioned topics of concern. Impact determinations are summarized in Table ES-1 as mentioned previously. If impacts were determined to be potentially significant, mitigation was incorporated to reduce impacts to a less-than-significant level. All thresholds of significance for noise and transportation were reduced to be less than significant. This comment does not express specific concerns related to the adequacy of the Draft EIR's environmental analysis. No further response is required.

7-2 In summary, this comment questions the Draft EIR's assumptions of walkability and transit of current and future residents and visitors of the city. The following response includes portions of Response to Comment Letter I-21 (included within Chapter 2, Responses to Comments, of the Final EIR):

The EIR evaluates the environmental impacts of the proposed Project based on the existing conditions of the Project site and area; applicable standards that are in place at the local, regional, state, and national levels; and, conservative assumptions based on default data from similar project types. While the availability of transit and the mixed-use nature of the Project and its surroundings may present a potential environmental benefit and are features discussed in the EIR, the environmental conclusions in the EIR do not hinge upon widespread use of alternative transport modes amongst the future residents, employees, guests, and visitors of the proposed Project. Rather, the analysis assumes that a majority of the future residents, employees, guests, and visitors would use single-occupancy vehicles.

Regarding the Project's proximity to downtown El Segundo, the distance is approximately 1.5 miles, which equates to an approximately 30-minute walk. While the potential for walking to downtown is mentioned in the EIR and is set forth as part of one of the Project objectives, the analysis in the EIR is not based on the potential for future Project residents to walk to downtown El Segundo. Rather, a conservative trip credit for alternative transport modes was taken for the purposes of the Project's vehicle trip calculations. The trip credit is minimal (5% of the Project's total vehicle trips) and is based on the mixed-use nature of the Project and Project area, combined with proximity to transit.

The analysis in the EIR assumes that 5% of the Project trips would take transit, walk, or bike. However, U.S. Census data from 2019 shows that 6.7% of residents in El Segundo take transit, walk, or bike. As such, data collected in the Project area indicates that the assumptions in the EIR analysis for use of alternative transportation modes are conservative in nature and that the EIR assumes reduced use of alternative transportation modes relative to current rates of use in the surrounding community. While the EIR describes the transit-oriented nature of the proposed Project and its proximity to existing businesses and services, the quantitative analyses (e.g., traffic generation, traffic-related noise generation) remain conservative with respect to vehicle use versus alternative transportation use. Furthermore, no additional walk/bike/transit trip generation credit was taken in the Draft EIR for the Project's proximity to Downtown El Segundo.

The comment also states that there is a lack of reliable transit in the Los Angeles area. However, the Metro C Line Mariposa Station is 0.51-mile from the Project site. Metro Line 232, LADOT Commuter Express Line 574, and Beach Cities Transit Line 109 also run along Pacific Coast Highway with stops near the Project site. Metro C Line Mariposa Station is considered to be within walking distance of the Project site (see Appendix J-1 of the Draft EIR). The distance between the Project site and the Mariposa Station equates to an approximately 12-minute walk. Metro Route 232 has average headways of 20 minutes during weekday morning peak periods and 30 minutes during weekday afternoon peak periods (Draft EIR, Appendix J-1). Furthermore, to provide a better bus system for Los Angeles County, the NextGen Bus Plan was approved in October 2020 by Metro. Service improvements are planned for Metro Route 232 to provide a 15-minute frequency during peak hours. Nevertheless, as described above, the trip credits taken in the EIR analysis for transit use are conservative with respect to existing reliance on transit, walking, and bicycling in the surrounding community.

Finally, the Project site is adjacent to a transit-priority area, which is an area delineated by SCAG to identify locations where transit use is practical and where transit-oriented development is encouraged. Plans and policies are in place at the local, regional, and state level to encourage increased use of alternative modes of transportation and to support mixed-used and higher density housing near transit. The proposed Project is supportive of these policies, as it would locate higher density housing and mixed-use development in proximity to transit. As these plans and policies are carried out, the use of alternative modes of transportation is also expected to increase over time, particularly in urbanized areas.

7-3 In summary, this comment questions the Draft EIR's assumptions of vehicles per unit for future residents of the proposed Project. The proposed Project includes an adequate amount of parking and would provide parking garages for the on-site residents, hotel guests, employees, and restaurant/retail patrons. Because the proposed Project would provide sufficient parking, and because parking adequacy is not considered an impact on the environment, no parking-related mitigation measures are required under CEQA. While CEQA does not require an analysis of parking, a parking evaluation was nevertheless included as part of the Draft EIR for informational purposes and in response to community concerns For more information, please see Section 4.13.4 of the Draft EIR and Appendix J-2 of the Draft EIR. No change or addition is required of the Draft EIR's environmental analysis. Nevertheless, this comment will be provided to City decision makers for their review and consideration.

Additionally, the comment asserts walkability assumptions within the Draft EIR. For more discussion on walkability, please see Response to Comment 7-2, above.

The comment also raises concerns for traffic congestion on Mariposa Avenue and Pacific Coast Highway. The commenter's concern for traffic congestion is no longer considered an environmental topic of concern under CEQA (California Public Resources Code Section 21099(b)(2)). The Draft EIR includes information on intersection operations and congestion level of service (i.e., LOS) for informational purposes only. The analysis is included as it relates to the applicability of General Plan policies (see Draft EIR, Section 4.13 and Appendix J-1). Although, automobile delay and traffic congestion are not considered to be impacts on the environment, analysis was prepared related to the Project's consistency with Section 15064.3(b) of the State CEQA Guidelines.

Finally, the comment asserts the Draft EIR excludes single-family homes as sensitive receptors to noise. This comment is similar to Comment I21-8 (included within Chapter 2, Responses to Comments, of the Final EIR). The comment incorrectly states that single-family homes were not included in the noise analysis for the Draft EIR. As noted in Section 4.10, Noise, of the Draft EIR:

> "Additional sensitive receptors are located farther from the Project site in the surrounding community, such as single-family residences west of Washington Street, and due to this increased distance (over 500 feet from the Project boundary), those receptors would be less impacted by noise and vibration levels than the above-listed sensitive receptors" (Draft EIR pages 4.10-5 and 4.10-6).

Therefore, single-family homes were not excluded from the Draft EIR as noise-sensitive receptors; the nearest sensitive receptors are analyzed to provide the most conservative analysis. No change or addition is required of the Draft EIR's environmental analysis.

7-4 In summary, this comment states opposition to the Project's proposed density, trip generation, and parking. The comment asserts the proposed Project would exacerbate existing parking and traffic conditions. For discussion on the Project's impacts to parking and traffic, see Response to Comment 7-3, above. The commenter's general opposition to the Project will be provided to the City's decision makers for their review and consideration.

7-5 In summary, this comment states alternative sites should be considered for the proposed Project. This comment is similar to Comment I21-12 (included within Chapter 2, Responses to Comments, of the Final EIR). As such, following response includes portions of Response to Comment I21-12:

Alternatives to the proposed Project, including alternate locations, are evaluated in Chapter 6 of the Draft EIR. Alternate locations to the proposed Project site were ultimately rejected as infeasible. The reasons for this conclusion are summarized below, followed by a description as to why the commenter's specific suggestions for alternate locations are determined to be infeasible.

Infeasibility of Alternate Locations

1) Alternate locations would not avoid or reduce the Project's environmental impacts. As stated in Section 15126.6(f)(2)(A) of the CEQA Guidelines, the key question and first step in analyzing alternative sites is whether any of the significant effects of a project would be avoided or substantially lessened by putting that project in another location. Only locations that would avoid or substantially lessen any of the significant effects of a project need to be considered in the EIR. There are no significant and unavoidable impacts associated with the proposed Project that relate to the location of the Project site, and development of the Project on another site in the City is not likely to lessen or avoid the environmental impacts that require mitigation. Rationale for this determination is provided in Section 6.4 of the Draft EIR.
2) No known sites are available within the City of an approximately equivalent size to the Project site that could be redeveloped with a mixed-use, hotel, commercial, and residential development. One of the factors for feasibility of an alternative, as defined in the CEQA

Guidelines, is "whether the proponent can reasonably acquire, control or otherwise have access to the alternative site." The City evaluated the possibility for other sites, and this evaluation is summarized in Section 6.4 of the Draft EIR. The City determined that potential alternate locations were not suitable due to a variety of factors (land use designations, hazardous site conditions, and/or property ownership.)

Suggested Alternate Locations

The commenter's specific suggestions for alternate locations are addressed as follows:

- **East of Pacific Coast Highway or south of Grand Avenue.** The commenter suggests developing the proposed Project on the east side of Pacific Coast Highway and/or to the south of Grand Avenue. The commenter presents the option of rezoning a site on the east side of Pacific Coast Highway to accommodate mixed-use residential. As stated in Section 6.4 of the Draft EIR, development of the Project on another site along Pacific Coast Highway could provide a transition from the City's offices to the east and residential uses to the west, similar to the proposed Project site. However, other sites along Pacific Coast Highway were determined to be infeasible because no such sites are under control by the Project applicant, which is a factor for feasibility under CEQA. Additionally, other sites along Pacific Coast Highway may not be considered by the City to be appropriate for the increased height and density that is proposed for the Project. Furthermore, locating residential uses east of Pacific Coast Highway would place new residents farther away from services and amenities, such as parks, City Hall, the police station, and schools. This may result in increased vehicle trips within the City and/or increased development impacts, in the event that new public services and amenities need to be developed elsewhere in the City. Residents would also be required to cross Pacific Coast Highway to access public services, which could present increased traffic safety effects. The City did consider a parcel located near Pacific Coast Highway and Rosecrans Avenue, between The Point Shopping Center and Plaza El Segundo. However, the parcel is between two sets of railroad tracks and is contaminated due to historic heavy industrial uses. Further, the former owner, Chevron, recorded restrictions on most of the properties in this area to prohibit residential and hotel uses. In general, the areas south of Grand Avenue are highly industrialized, and adding residences to this area would likely introduce an incompatible land use.

In conclusion, the City acknowledges the comment and it will be provided to City decision makers for their review and consideration.