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Public Comments Not Uploaded Applicant Submission - CF 23-1091 (4112-4136 Del Rey SCEA)

1 message

'Olivia Joncich' via Clerk-PLUM-Committee <clerk.plumcommittee@lacity.org> Tue, Oct 31, 2023 at 11:47 AM
Reply-To: clerk.plumcommittee@lacity.org
To: LA City Clerk PLUM Committee <clerk.plumcommittee@lacity.org>
Cc: Dave Rand <Dave@rpnllp.com>, More Song <more.song@lacity.org>

Hello,

Please see the attached applicant submission for Council File 23-1091, which is on the November 7, 2023 PLUM agenda.

Thank you,

Olivia Joncich

Senior Planner

PLEASE NOTE CHANGE IN SUITE NUMBER

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memorandum

date	October 24, 2023
to	More Song, City Planner, City of Los Angeles
from	Mike Harden and Alan Sako, Environmental Science Associates (ESA)
subject	Responses to Public Comments Regarding the Sustainable Communities Environmental Assessment for the 4112 Del Rey Ave. Project (ENV-2022-9017-SCEA), Los Angeles, California

BACKGROUND

The City of Los Angeles (City), as lead agency, prepared a Sustainable Communities Environmental Assessment (SCEA) in accordance with the California Environmental Quality Act (CEQA), Public Resources Code (PRC) Section 21155.2(b), to evaluate the potential environmental effects associated with the proposed 4112 Del Rey Avenue Project (Project). The City made the SCEA available online for public review on the Los Angeles City Planning Department's website at https://planning.lacity.org/development-services/environmental-review/scea/4112-del-rey-project-0 for a 30-day public comment period starting on July 27, 2023 and ending on August 28, 2023. Pursuant to PRC Section 21155.2(b)(4), all comments received regarding the SCEA are to be provided to the decision-maker for consideration.

On August 28, 2023, Lozeau Drury LLP, on behalf of the Supporters Alliance for Environmental Responsibility (SAFER), submitted a comment letter (included as Attachment 1 to this Memo) expressing concerns regarding various claimed inadequacies in the SCEA and related approvals for the Project. This Memo addresses the comments raised in the August 28, 2023 letter prepared by Lozeau Drury LLP and the attachments to this letter to provide for a more complete record for the City decision makers and the public. The Lozeau Drury letter and attached letters from Indoor Environmental Engineering (IEE) and SWAPE are included as attachments. .

SUPPLEMENTAL RESPONSES

LETTER FROM LOZEAU DRURY, LLP, ON BEHALF OF SAFER, DATED AUGUST 28, 2023

Comment SAFER-1

I am writing on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the proposed Sustainable Communities Environmental Assessment ("SCEA") prepared for the 4112 Del Rey Avenue Project in the City of Los Angeles (ENV- 2022-9017-SCEA), including all actions referring to the development of a six-story residential development comprised of 282 residential dwelling units and up to 253,974 square feet of residential space on a 2.8 acre site.

After reviewing the SCEA, SAFER respectfully requests that the City of Los Angeles ("City") refrain from taking any action on the Project and SCEA at this time because (1) the SCEA's conclusions about the Project's impacts to air quality are not supported by substantial evidence, and (2) the SCEA fails to incorporate all feasible mitigation measures from a prior environmental impact report (EIR). These comments are supported by the expert comments of air quality experts Certified Industrial Hygienist, Francis "Bud" Offermann, PC, CIH, and the environmental consulting firm, Soil/Water/Air Protection Enterprise ("SWAPE"). Mr. Offermann's and SWAPE's comments are attached as Exhibits A and B, respectively, and are incorporated herein by reference.

PROJECT DESCRIPTION

The Project includes the construction of a six-story (66-foot-tall) mid-rise building consisting of 210 residential units, including 18 very-low-income (VLI) units. The Project would also include 282 vehicular parking spaces within five above-grade parking levels. The Project site is currently occupied by six one-story creative office and warehouse buildings and associated surface parking.

Response to Comment SAFER-1

This comment introduces the commenter, provides an overview of the Project, and introduces comments provided below. Specifically, the commenter claims that the City should refrain from taking any action on the Project and SCEA at this time because (1) the SCEA's conclusions about the Project's impacts to air quality are not supported by substantial evidence, and (2) the SCEA fails to incorporate all feasible mitigation measures from a prior environmental impact report (EIR). As discussed in the responses below, this comment letter does not provide credible evidence that the SCEA is inadequate as an informational document or in terms of its analysis, does not appropriately implement mitigation measures, or otherwise fails to comply with CEQA. Therefore, the SCEA appropriately complies with CEQA requirements applicable to the Project.

Comment SAFER-2

LEGAL BACKGROUND AND STANDARD

I. Sustainable Communities Environmental Assessment under SB 375.

CEQA allows for the streamlining of environmental review for "transit priority projects" meeting certain criteria. (Pub. Res. Code §§ 21155, 21155.1, 21155.2) To qualify as a transit priority project, a project must

(1) contain at least 50 percent residential use, based on total building square footage, and, if the project contains between 26 percent and 50 percent nonresidential uses, a floor area ratio of not less than 0.75;

(2) provide a minimum net density of at least 20 dwelling units per acre; and

(3) be within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan.

(PRC § 21155(b))

A transit priority project is eligible for CEQA's streamlining provisions where,

> [The transit priority project] is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, for which the State Air Resources Board . . . has accepted a metropolitan planning organization's determination that the sustainable communities strategy or the alternative planning strategy would, if implemented, achieve the greenhouse gas emission reduction targets.

(PRC § 21155(a).)

II. The Project's SCEA must be supported by Substantial Evidence.

If "all feasible mitigation measures, performance standards, or criteria set forth in the prior applicable environmental impact reports and adopted in findings made pursuant to Section 21081" are applied to a transit priority project, the project is eligible to conduct environmental review using a sustainable communities environmental assessment ("SCEA"). (PRC § 21155.2.) A SCEA must contain an initial study which "identif[ies] all significant or potentially significant impacts of the transit priority project . . . based on substantial evidence in light of the whole record." (PRC § 21155.2(b)(1).) The initial study must also "identify any cumulative effects that have been adequately addressed and mitigated pursuant to the requirements of this division in prior applicable certified environmental impact reports." (*Id*.)

The SCEA must then "contain measures that either avoid or mitigate to a level of insignificance all potentially significant or significant effects of the project required to be identified in the initial study." (PRC §21155(b)(2).) The SCEA is not required to discuss growth inducing impacts or any project specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network. (PRC § 21159.28(a).) After circulating the SCEA for public review and considering all comments, a lead agency may approve the SCEA with findings that all potentially significant impacts have been identified and mitigated to a less-than-significant level. (PRC § 21155(b)(3), (b)(4), (b)(5).)

A lead agency's approval of a SCEA must be supported by substantial evidence. (PRC §21155(b)(7).) A SCEA is reviewed under the substantial evidence standard, rather than the "fair argument" standard that is applied to negative declarations. PRC §21155.2(b); *Sacramentans for Fair Planning v City of Sacramento* (2019) 37 Cal.App.5th 698, 722 (applying substantial evidence to review of decision to use sustainable communities environmental assessment as well as content of such assessment).

Response to Comment SAFER-2

This comment provides background information on CEQA legal standards and review. This comment does not raise any issues with respect to the adequacy of the SCEA. Therefore, it is noted for the record and will be forwarded to the decision-makers for their review and consideration.

Comment SAFER-3

DISCUSSION

I. The SCEA's Conclusions Regarding the Project's Air Quality Impacts Are Not Supported by Substantial Evidence.

Indoor air quality expert Francis "Bud" Offermann, PE, CIH, and air quality experts Matt Hagemann, P.G., C.Hg., and Paul E. Rosenfeld, Ph.D., of the Soil/Water/Air Protection Enterprise ("SWAPE") reviewed the SCEA and found that the SCEA's conclusions as to the Project's air quality impacts were not supported by substantial evidence. Mr. Offermann found that the SCEA failed to address and mitigate the human health impacts from indoor emissions of formaldehyde. Mr. Offermann's comment and CV are attached as Exhibit A. SWAPE found that the SCEA failed to properly model the Project's emissions and health risks and failed to properly apply the SCEA's proposed mitigation measures. SWAPE's comment and CVs are attached as Exhibit B.

Response to Comment SAFER-3

The comment states that SCEA's conclusions regarding the Project's air quality impacts were not supported by substantial evidence. Specifically, the attachments from Francis Offerman, Matt Hagemann, and Paul Rosenfeld state that the SCEA fails to address significant health risks from indoor emissions including formaldehyde, the SCEA failed to properly model the Project's emissions and health risks, and failed to properly apply the SCEA's proposed mitigation measures. Comments from Mr. Offerman, Mr. Hagemann, and Mr. Rosenfeld are attached as Exhibits for the SAFER letter. As discussed in further detail in Response to Comment Nos. SAFER-4 through SAFER-12 as well as Response to Comment Nos. IEE-1 to IEE-12 and SWAPE-1 to SWAPE-6, the commenter does not present any credible or substantial evidence that the Project would result in significant indoor air quality impacts, that the SCEA failed to properly model the Project's emissions and health risks, or that the SCEA's proposed mitigation measures were improperly applied. Therefore, no further analysis is warranted.

Comment SAFER-4

a. The SCEA Cannot be Relied Upon to Determine the Significance of the Project's Air Quality Impacts Because the SCEA's Model Underestimated Project Emissions.

In concluding the Project need not undergo further CEQA review, the SCEA relies on emissions calculated from the California Emissions Estimator Model Version 2020.4.0 ("CalEEMod"). (Ex. B, p. 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. (Id). CEQA requires any changes to the default values to be justified by substantial evidence. (Id.)

As a preliminary matter, SWAPE reviewed the SCEA's CalEEMod output files and found that the values input into the model were inconsistent with information provided in the SCEA. (Id., p. 2). Therefore, the SCEA's air quality analysis cannot be relied upon to determine the Project's emissions. Specifically, SWAPE found that the following values used in the SCEA's air quality analysis were either inconsistent with information provided in the SCEA or otherwise unjustified because the SCEA incorrectly applied the Tier 4 Mitigation Measures.

SWAPE's updated modeling, using inputs that clearly reflects the Project, is completely different from those that the SCEA relies upon and indicates a potentially significant impact which was not addressed in the SCEA. Based on the issues listed above, the SCEA's analysis of air quality cannot be relied upon to determine the significance of impacts.

Therefore, the models which the SCEA relies on are unreliable document and must be updated and revised to better reflect and accurately model the Project's impacts, specifically the Tier 4 Mitigation Measure.

Response to Comment SAFER-4

The commenter claims input values into CalEEMod were inconsistent with the Project description and unsupported due to the Project's incorporation of PDF AIR-1; however, as discussed here as well as in Response to Comment Nos. SAFER-5, SAFER-6, and SWAPE-1 through SWAPE-6, this claim is incorrect. As discussed in Chapter 5, *Initial Study and Environmental Analysis*, of the SCEA (page 5-26), PDF AIR-1 includes various measures to minimize construction-related emissions, including a requirement that "off-road diesel-powered equipment within the construction inventory shall meet the Tier 4 final off-road emissions standards within the Los Angeles region." PDF AIR-1, along with all other project design features identified in the SCEA, are express features of the Project, and will be both incorporated as enforceable conditions of approval for the Project and included in the SCEA's mitigation monitoring program (MMP) along with relevant details regarding enforcement and monitoring agencies, timing requirements, and actions indicating compliance. To account for the Project's utilization of Tier 4 construction equipment in CalEEMod, PDF AIR-1 must be applied as a mitigation measure within the modeling program; this application of PDF AIR-1 to the Project is documented in the CalEEMod outputs under Mitigation Measures Construction as Use Cleaner Engines for Construction Equipment (Appendix A PDF page 68 of the SCEA). Therefore, the inputs to CalEEMod as reflected in the SCEA are correct, and do not result in air quality emissions that are underestimated. No revisions to the SCEA or further analysis is required.

Comment SAFER-5

b. The SCEA Fails to Present Substantial Evidence Showing that the Project Will Have a Less-Than-Significant Air Quality Impact.

Similarly, the SCEA fails as a reliable document because it relies on unsubstantiated changes to individual construction phase lengths and construction equipment unit amounts. SWAPE reviewed the SCEA CalEEMod output files – the underlying data files used to estimate a project's air emissions – and found that "several model inputs were not consistent with [the] information disclosed in the SCEA." (Id., p. 2) For instance, the CalEEMod output files included several unsubstantiated changes to off-road construction equipment unit amounts but fails "to provide a source for the Project's anticipated construction equipment list." (Id. p. 4)

Response to Comment SAFER-5

The commenter states that the inputs into CalEEMod were inconsistent with information provided in the SCEA and therefore, the air quality modeling is flawed. However, as discussed here as well as in Response to Comment Nos. SAFER-4, SAFER-6, and SWAPE-1 through SWAPE-6, this claim is incorrect. As discussed in the CalEEMod User's Guide (Pages 30 through 31),[1] the construction tab contains default information obtained from a survey conducted by the South Coast Air Quality Management District (SCAQMD) of construction sites with a range of project types and sizes and provides a default construction equipment list and phase length data based on the total lot acreage of a project. The CalEEMod Users Guide states: "If the user has more detailed site-specific equipment

[1] California Air Pollution Control Officers Association, California Emissions Estimator Model, User's Guide, Version 2020.4.0, page 30-31, May 2021.

and phase information, the user should override the default values."[2] Following this guidance, the modeling performed for the SCEA utilized certain project-specific data instead of default values. These changes were justified in the CalEEMod worksheets included in the SCEA.

The commenter asserts that the changes to CalEEMod's default inputs were not justified. However, consistent with the CalEEMod User's Guide direction noted above, the SCEA used Project-specific construction data including the anticipated construction schedule from the Project construction team, which was applied in the air quality modeling as provided in Appendix A of the SCEA. Specifically, the CalEEMod User's Guide states on page 18: "[t]o indicate when construction of the project will begin, the user will need to insert a date in the Start of Construction field. The date when construction will start triggers a rolling calendar that starts with the construction start date and follows by various construction phases that will be populated with default date ranges in the Construction screen." The CalEEMod Users Guide further states on page 33 "[i]f equipment-specific information is available, the user can override these default values." In this case, the default date ranges for the construction subphases as well as the default construction equipment values were changed based on the Project-specific information as provided by the Project Applicant and is reflected in the CalEEMod output files (PDF page 66 of SCEA Appendix A,). As shown in Appendix A, PDF page 29, the user-entered comments and non-default data explanation for the Construction Phase states, "[p]roject construction schedule supplied by the Applicant." Therefore, proper explanation was provided for the changes to the construction schedule and equipment mix.

The comment further states that the default CalEEMod construction schedule was overridden, but that dates weren't provided. This is incorrect; the dates of the construction phases and the number of days for each phase were provided on PDF page 66 of SCEA Appendix A. Moreover, the user-entered construction schedule information represents a more conservative form of analysis than the CalEEMod defaults because CalEEMod default construction schedules assume no overlapping of phases. In contrast, the Project's air quality analysis anticipates that construction would occur with some potential overlap of the construction activities, which was assumed to provide a conservative estimate of peak daily emissions. Thus, in the case of this Project, utilization of the CalEEMod default schedule would underestimate maximum daily emissions.

Based on the above, the construction schedule and construction equipment entered into CalEEMod was based on Project-specific data and accordingly allow an appropriate analysis of the Project's anticipated construction period emissions, and the commenter offers no evidence whatsoever to the contrary.

Comment SAFER-6

Additionally, SWAPE found that the SCEA presented unsubstantiated changes to the estimated timeframe for completion of various phases of Project construction. (Id., p. 6.) "The construction schedule included in the model presents an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not for others," and how the SCEA "disproportionately alter[ed] and extend[ed] some of the individual construction phase lengths without proper justification." (Id., p. 3) This is notable because the CalEEMod User Guide expressly "requires any changes to model defaults to be justified." (Id.) SWAPE noted that while "the SCEA indicates the total construction duration, the SCEA fails to mention or justify the individual construction phase

[2] California Air Pollution Control Officers Association, California Emissions Estimator Model, User's Guide, Version 2020.4.0, page 11, May 2021.

lengths." (Id.) In the absence of any justification, the SCEA "fails to provide substantial evidence to support the revised individual construction phase lengths." (Id.)

As SWAPE explains, "by disproportionately altering and extending some of the individual construction phase lengths without proper justification, the models assume there are a greater number of days to complete the construction activities required by the prolonged phases. As a result, there will be less construction activities required per day and, consequently, less pollutants emitted per day. Therefore, the model may underestimate the peak daily emissions associated with some phases of construction and should not be relied upon to determine Project significance." (Id.)

Such unsubstantiated change is clearly improper. An EIR must describe "the whole of an action" and cannot separate stages of a Project to obscure its true environmental impact. (14 CCR § 15378). "Improper piecemealing occurs 'when the purpose of the reviewed project is to be the first step toward future development' or 'when the reviewed project legally compels or practically presumes completion of another action.'" *East Sacramento Partnerships for a Livable City v. City of Sacramento* (2016) 5 Cal.App.5th 281, 293 (citing *Banning Ranch Conservancy v. City of Newport Beach* (2012) 211 Cal.App.4th 1209, 1223). "There is no dispute that CEQA forbids 'piecemeal' review of the significant environmental impacts of a project." *Berkeley Keep Jets Over the Bay Com. v. Bd. of Port Comrs*., (2001) 91 Cal.App.4th at 1344, 1358 ("Berkeley Jets"). As such, the SCEA lacks substantial evidence to show that the Project will have a less than significant air quality impact.

In conclusion, SWAPE found that the SCEA's estimates of the Project's air quality impacts are not supported by substantial evidence and should therefore "not be relied upon to determine Project significance." (Id., p. 4). Therefore, the City must prepare a revised SCEA or conduct an initial study to accurately characterize the significance of the Project's impacts. Unless and until the City can present substantial evidence showing that the Project's impacts are less than significant, the use of a SCEA is improper. PRC §21155(b)(1)-(2).

Response to Comment SAFER-6

The commenter is restating, but provides additional detail regarding the comment raised in SAFER-5. Please refer to Response to Comment Nos. SAFER-4, SAFER-5, SAFER-6, and SWAPE-2 through SWAPE-5. As discussed in Response to Comment SAFER-5, CalEEMod defaults were changed based on Project-specific information provided by the Project Applicant, including adjustments to construction phase lengths to account for potential overlapping, resulting in a more conservative assessment of the Project's construction emissions. As CalEEMod explicitly allows for utilization of project-specific data when performing emission modeling, the SCEA's air quality analysis appropriately analyzes the Project's construction-period emissions.

Comment SAFER-7

II. Substantial Evidence Shows That the Project Will Likely Have Significant Adverse Indoor Air Quality and Health Impacts.

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, has reviewed the SCEA and all relevant documents regarding the Project's indoor air emissions. Based on this review, Mr. Offermann concludes that the Project will likely expose future residents living at the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is one of the world's leading

experts on indoor air quality, particularly focusing on formaldehyde emissions, and has published extensively on the topic. Mr. Offermann found that the SCEA failed to address and mitigate the human health impacts from indoor emissions of formaldehyde.

Response to Comment SAFER-7

The comment letter and supporting documents from Francis Offerman states that the Project SCEA fails to address significant health risks by the Project from indoor air quality, specifically related to formaldehyde. As discussed in further detail in Response to Comment Nos. SAFER-3, SAFER-8 through SAFER-10, SAFER-12, and IEE-1 through IEE-12, the commenter does not present any credible evidence that the Project would result in significant indoor air quality impacts. Therefore, no further analysis is warranted and no changes to the SCEA are required.

Comment SAFER-8

a. Future Residents of the Project Will Face Elevated Cancer Risks from Indoor Formaldehyde Emissions.

Formaldehyde is a known human carcinogen and is listed by the State of California as a Toxic Air Contaminant ("TAC"). The South Coast Air Quality Management District ("SCAQMD"), the agency responsible for regulating air quality within the South Coast Air Basin—which includes the City of Los Angeles—has established a cancer risk significance threshold from human exposure to carcinogenic TACs of 10 per million. (Ex. A., p. 2) Here, Project's emissions of formaldehyde to air will result in very significant cancer risks to future residents of the Project.

Mr. Offermann states that future residents of the Project would be exposed to a 120 in one million risk, even assuming all materials are compliant with the California Air Resources Board's formaldehyde airborne toxics control measure. (Id. at 4) This potential exposure level exceeds the South Coast Air Quality Management District's ("SCAQMD") CEQA significance threshold for airborne cancer risk by 12 times the amount.

The California Supreme Court has emphasized the importance of air district significance thresholds in providing substantial evidence of a significant adverse environmental impact under CEQA. (*Communities for a Better Environment v. South Coast Air Quality Management Dist*. (2010) 48 Cal.4th 310, 327 ["As the [South Coast Air Quality Management] District's established significance threshold for NOx is 55 pounds per day, these estimates [of NOx emissions of 201 to 456 pounds per day] constitute substantial evidence supporting a fair argument for a significant adverse impact."].) Since expert evidence demonstrates that the Project will exceed the SCAQMD's CEQA significance threshold, there is substantial evidence that an "unstudied, potentially significant environmental effect[]" exists. (See, *Friends of College of San Mateo Gardens v. San Mateo County Community College Dist.* (2016) 1 Cal.5th 937, 958.)

Mr. Offermann's observations constitute substantial evidence that the Project will produce potentially significant air quality and health impacts which the SCEA has failed to address. Therefore, the City must prepare an updated SCEA to fully evaluate and mitigate these impacts on the Project's future residents.

Response to Comment SAFER-8

The comment letter and supporting documents from Francis Offerman contends that the SCEA fails to address significant health risks by the Project from indoor air quality, specifically related to formaldehyde. However, as discussed here as well as in Response to Comment Nos. SAFER-3, SAFER-7, SAFER-9, SAFER-10, SAFER-12, and IEE-1 through IEE-12, the Project would not result in significant indoor air quality impacts. Mr. Offerman references recent research papers he authored or co-authored, the most recent of which is *Indoor Air Quality in California Homes with Code-Required Mechanical Ventilation* (2020),[3] as claimed evidence that the Project would have poor indoor air quality resulting in significant health risks to residents. This 2020 research paper collected data from 70 homes regarding ventilation practices and indoor air quality, including measurements of indoor air concentrations of formaldehyde emitted from composite wood products that might contain formaldehyde-based glues. According to the 2020 paper, the study characterized 70 single-family detached structures, located in California, and built between 2011 and 2017. According to the research paper, the "built in 2011 or later" requirement was used as a proxy for homes built to comply with the 2008 version of the California Title 24 standards.

However, the analyzed building conditions in the 2020 research paper are highly dissimilar to the Project. The Project is a multifamily multistory residential building that would be constructed with steel and concrete in addition to wood products; in contrast, single-family structures are typically predominantly constructed with wood products. In addition, multifamily developments such as the Project include common open and amenity spaces that provide residential recreation opportunities outside of individual dwelling units; accordingly, Project residents are anticipated to spend less time in their apartments than residents inside of a single-family home and would therefore have lower exposure to potential existing formaldehyde-containing materials. Furthermore, the buildings in the cited research paper consisted of homes built to comply with the 2008 version of the California Title 24 standards, whereas the Project would be built to the 2022 Title 24 standards, including current ventilation requirements that improve indoor air quality protecting residents from air pollution originating from outdoor and indoor sources.[4] Specifically, as required by 2022 Title 24 standards, the Project would utilize MERV 13 filters that would substantially reduce outdoor air pollutants drawn into the buildings.

The commenter also fails to note that the same cited research paper, *Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation*, also discusses indoor air quality and the effect of fan sizing for ventilation with respect to Title 24. Specifically, the research paper noted in its findings that the adopted fan sizing method in the 2019 version of the Title 24 includes requirements that ensures there is no structural bias towards higher pollutant exposure in homes using unbalanced ventilation systems, unlike the previous 2008 and 2013 Title 24 standards, which could worsen indoor air quality by 20 percent on average.[5] Further, while the study found many more recently constructed homes (at the time of the field study) had ventilation equipment with more airflow capacity than the minimum requirements of Title 24 for when they were built and would meet the higher air flow requirements of the 2019 version of the Title 24 standards, the 2019 Title 24 requirements ensured the system

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3 Singer, B.C, Chan, W.R, Kim, Y., Offermann, F.J., and Walker I.S. 2020. Indoor Air Quality in California Homes with Code-Required Mechanical Ventilation. Indoor Air, Vol 30, Issue 5, 885-899.

4 CEC, News Release, May 9, 2018, https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first.

5 Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200R1, DOI: 10.20357/B7QC7X.

consistently demonstrated lower indoor air quality exposures across various home types (e.g., homes with more air leakage, homes with more airtightness) than prior standards.[6] Therefore, while it is misleading to directly apply results from the research paper to the Project's residential uses (for the reasons explained above), the research paper wholly acknowledges that California regulations have been highly effective in reducing formaldehyde concentrations in homes and states that "[c]omparisons of indoor formaldehyde…levels with those from a prior study of new homes in California (conducted in 2007-08) suggest that contaminant levels are lower in recently built (after 2008) homes. California's regulation to limit formaldehyde emissions from composite wood products appears to have substantially lowered its emission rate and concentration in new homes."[7] The research paper also states that "[indoor air quality] satisfaction was also similar in the newer homes as compared to homes built in years prior. These results indicate the success of standards."[8]

The State of California's regulatory agency with authority over this issue, CARB, has stated that the control measures it has approved for reducing emissions, including formaldehyde, from composite wood products provide a level of control that protects health and safety. CARB makes this point by stating directly in its Frequently Asked Questions for Consumers on Reducing Emissions from Composite Wood Products that, from a public health standpoint, the Composite Wood Products Regulation's emission standards are set at low levels intended to protect public health.[9] The first emission standards (Phase 1) went into effect in 2009. The more stringent Phase 2 standards are now in effect for all composite wood panels and finished goods sold in California. Prior to the CWP Regulation, formaldehyde emissions were often ten to twenty-fold higher than the current allowable levels. The regulation also includes provisions for no-added formaldehyde and ultra-low emitting formaldehyde-based resins, to encourage the use of these lower-emitting resins in composite wood products.[10]

The Project would be required to comply with all applicable City of Los Angeles, state, and federal requirements pertaining to the use of indoor building materials. As the Project will include efficient HVAC systems as discussed in the SCEA, and as the Project will be built to the 2022 Title 24 standards, which require the incorporation of designs that would improve indoor air quality and the use of MERV 13 filters, substantial evidence demonstrates that compliance with applicable regulations will be effective in reducing potential indoor formaldehyde concentrations. Therefore, the comment does not represent credible evidence that the Project would pose significant health risks to Project residents from indoor air quality and the City does not need to prepare an updated SCEA.

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6 Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200R1, DOI: 10.20357/B7QC7X.

7 Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200R1, DOI: 10.20357/B7QC7X.

8 Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200R1, DOI: 10.20357/B7QC7X.

9 California Air Resources Board, Frequently Asked Questions for Consumers, Reducing Formaldehyde Emissions from Composite Wood Products, https://ww3.arb.ca.gov/toxics/compwood/consumer_faq.pdf?_ga=2.32900281.682464648.1573169874-1026610208.1565143819. Accessed October 2023.

10 California Air Resources Board, Frequently Asked Questions for Consumers, Reducing Formaldehyde Emissions from Composite Wood Products, https://ww3.arb.ca.gov/toxics/compwood/consumer_faq.pdf?_ga=2.32900281.682464648.1573169874-1026610208.1565143819. Accessed October 2023.

Comment SAFER-9

b. The SCEA fails to discuss and mitigate the Project's significant indoor air quality impacts.

The SCEA fails to discuss, disclose, analyze, and mitigate the significant health risks posed by the Project from formaldehyde, a toxic air contaminant. As discussed below and set forth in Mr. Offermann's comments, the Project's emissions of formaldehyde to air will result in very significant cancer risks to future residents of the Project's residential component and employees in the Project's commercial components. Mr. Offermann's expert opinion demonstrates the Project's significant health risk impacts, which the City has a duty to investigate, disclose, and mitigate in the SCEA prior to approval.

Mr. Offermann concludes that future residents of the Project would be exposed to a level of formaldehyde that exceeds the significance threshold under the South Coast Air Quality Management District ("SCAQMD"). This potential exposure level exceeds SCAQMD's CEQA significance threshold for airborne cancer risk of 10 per million. (Id., p. 2) 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." (Id, p. 2-3)

As described in more detail below, Mr. Offermann proposes feasible mitigation measures to reduce the Project's indoor air quality impacts. But since the SCEA does not analyze this impact at all, none of these or other mitigation measures have been considered.

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").

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.'" *California Bldg Indus. Ass'n v. Bay Area Air Quality Mgmt. Dist*., (2015) 62 Cal.4th 369, 384 ("CBIA'). 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 workers is as important to CEQA's safeguards as that of nearby residents currently living near the project site.

The proposed buildings will have significant impacts on air quality and health risks by emitting cancer-causing levels of formaldehyde into the air that will expose future residents and employees to cancer risks potentially in excess of SCAQMD's threshold of significance for cancer health risks of 10 in a million. Currently, outside of Mr. Offermann's comments, the City does not have any idea what risks will be posed by formaldehyde emissions from the Project or the residences. As a result, the City must include an analysis and discussion in an updated SCEA which

discloses and analyzes the health risks that the Project's formaldehyde emissions may have on future residents and employees and identifies appropriate mitigation measures.

Response to Comment SAFER-9

The comment speculates that the Project could have an effect on the Project's users, which is not considered to be an impact under CEQA and need not be analyzed in the Project's SCEA. However, as discussed here as well as in Response to Comment Nos. SAFER-3, SAFER-7, SAFER-8, SAFER-10, SAFER-12, and IEE-1 through IEE-12,the Project would not result in significant indoor air quality impacts. See, e.g., *Parker Shattuck Neighbors v. Berkeley City Council* (2013) 222 Cal.App.4th 768, 782 (Court concluded that alleged health risks to project residents and construction workers from contaminated soils did not constitute a fair argument of an impact to the environment under CEQA. "In general, CEQA does not regulate environmental changes that do not affect the public at large: "the question is whether a project [would] affect the environment of persons in general, not whether a project [would] affect particular persons." [Citations omitted]). Furthermore, the calculations provided in the comment amount to speculation given that the underlying report is based on highly dissimilar uses compared to the Project and do not reflect the actual Project uses or compliance with current regulations and are thus unsupported by substantial evidence. As stated in Response to Comment SAFER-8, the State of California's regulatory agency with authority over formaldehyde, CARB, has stated that the control measures it has approved for reducing emissions, including formaldehyde, from composite wood products provide a level of control that protects health and safety. The more stringent Phase 2 standards are now in effect for all composite wood panels and finished goods sold in California. Prior to the CWP Regulation, formaldehyde emissions were often ten to twenty-fold higher than the current allowable levels. The regulation also includes provisions for no-added formaldehyde and ultra-low emitting formaldehyde-based resins, to encourage the use of these lower-emitting resins in composite wood products.[11]

In addition, the commenter's analysis is based on a series of inaccurate assumptions, including that the Project's construction materials would not be compliant with the applicable regulations to reduce formaldehyde exposure; formaldehyde daily emissions from construction materials would be constant for over 70 years; residents would inhale 20 cubic meters of air per day; and residents would be at the Project Site for 24 hours/day, 7 days/week, 52 weeks/year for 70 years. In fact, construction materials would comply with all such applicable regulations including CARB's highly stringent Phase 2 standards; furthermore, the amount of formaldehyde off-gassing from construction materials decreases over time. The American Lung Association estimates that the average person inhales approximately 2,000 gallons of air per day, or roughly 7.57 cubic meters per day, and not the 20 cubic meters per day assumed by the commenter.[12] Additionally, people do not stay in their residences and never leave for 24 hours per day, 365 days per year, for 70 years. Therefore, the commenter significantly overstates impacts from formaldehyde. Therefore, based on the above, the commenter does not present credible evidence that the Project would result in significant indoor air quality impacts and no further analysis is warranted. Additionally, since Project impacts are less than significant, mitigation measures, including the mitigation measures suggested by the commenter, are not required.

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11 California Air Resources Board, Frequently Asked Questions for Consumers, Reducing Formaldehyde Emissions from Composite Wood Products, https://ww3.arb.ca.gov/toxics/compwood/consumer_faq.pdf?_ga=2.32900281.682464648.1573169874-1026610208.1565143819. Accessed October 2023.

12 American Lung Association, How Your Lungs Get the Job Done, website: www.lung.org/blog/how-your-lungs-work, accessed October 2021.

Comment SAFER-10

c. The SCEA fails to analyze the Project's significant outdoor air quality impacts.

Given the Project site's location, the SCEA fails to adequately review and analyze the additional impacts of motor vehicle traffic and the subsequent increase in exposure to particulate matter ("PM2.5"). As the SCEA notes and Mr. Offermann highlights, the Project site is within the South Coast Air Basin, a state and federal non-attainment area for PM2.5, and in an area with moderate to high traffic. (Id., p. 2) "Additionally, the SCAQMD's Multiple Air Toxics Exposure Study (MATES V) study cites an existing cancer risk of 503 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic." (Id., p. 4)

Mr. Offermann predicts that the projected traffic noise levels, the annual average PM.25 concentrations will exceed both state and federal standards, thereby necessitating installation of technology to reduce the impacts to a less-than-significant level. However, the SCEA fails to analyze these issues, as well as the cumulative impacts associated with the Project's emissions. As such, the City should not proceed with any Project approvals and to instead prepare and recirculate an updated SCEA that adequately analyzes and addresses these impacts.

Response to Comment SAFER-10

The comment raises issues related to the existing air quality designation of the South Coast Air Basin as nonattainment for the state and federal PM2.5 standards, the existing cancer risk from the SCAQMD's MATES V study, and traffic noise levels and PM2.5 concentrations. However, as discussed here as well as in Response to Comment Nos. IEE-9 and IEE-12, the Project would not result in significant outdoor air quality impacts.

As stated in Chapter 5, *Initial Study and Environmental Analysis*, of the SCEA (page 5-19), the South Coast Air Basin is designated as non-attainment for PM2.5 under both the federal and state standards, which means that concentrations of PM2.5 in recent years at one or more ambient outdoor monitoring locations in the South Coast Air Basin exceed an annual average concentration of 12 $\mu g/m^3$ and/or a daily average concentration of 35 $\mu g/m^3$. The SCAQMD Multiple Air Toxics Exposure Study V (MATES V) is the fifth iteration of the SCAQMD's air toxics report for the South Coast Air Basin. A key takeaway from the MATES V study is that modeling data shows that the average air toxics cancer risk in the South Coast Air Basin has decreased by about 50 percent since the prior MATES IV study (an average air toxics cancer risk in MATES V of 455 in one million compared to MATES IV of 997 in one million).[13] The SCAQMD has prepared a series of maps that represent the estimated number of potential cancers per million people associated with a lifetime of breathing air toxics (24 hours per day outdoors for 70 years). The background cancer risk per million people in the Project area is estimated at 503 in one million.[14]

Agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. (*California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386.) Nonetheless, the Project would be built to the 2022 Title 24 standards, including current ventilation requirements that improve indoor air quality protecting residents from air pollution originating from

13 SCAQMD, 2021. Final Report Multiple Air Toxics Exposure Study in the South Coast Air Basin MATES V, August 2021.
14 SCAQMD, Multiple Air Toxics Exposure Study, MATES V Data Visualization Tool, Cancer Risk.

outdoor and indoor sources.[15] Specifically, as required by 2022 Title 24 standards, the Project would utilize MERV 13 filters that would substantially reduce outdoor air pollutants drawn into the buildings, which is the level of filtration recommended by the commenter. As required by CEQA, the Project's contribution to localized PM2.5 emissions concentrations and localized air quality impacts from Project construction and operations were evaluated in Chapter 5, *Initial Study and Environmental Analysis*, of the SCEA (see pages 5-30 through 5-35). Specifically, page 5-30 of Chapter 5, *Initial Study and Environmental Analysis*, of the SCEA, discusses that operation of the Project has the potential to generate net additional criteria pollutant emissions through the additional vehicle trips traveling to and from the Project Site it would generate over the existing condition. For mobile sources, existing vehicle trips as well as the estimated vehicle trips and maximum daily VMT were provided for the Project uses in the Project's Transportation Assessment.[16] Mobile source emissions calculations utilize the VMT along with emission factors from the EMFAC2021 model. EMFAC2021 was run in the emissions mode (also referred to as the "Burden" mode) and used to generate South Coast Air Basin-specific vehicle fleet emission factors in units of pounds or metric tons (MT) per mile. These emission factors were then applied to the daily VMT to obtain daily mobile source emissions. The VMT estimates take into account trip and VMT reductions from Project land use characteristics, including nearby transit options and improved walkability from the nearby presence of off-site recreational, residential, commercial, restaurant, and office land uses. As shown in Table 5-3 of the SCEA (page 5-31), Project PM2.5 emissions, which include mobile emissions, are well below the SCAQMD significance threshold. Additionally, air quality cumulative impacts were discussed on page 5-36 of the SCEA. As discussed therein, SCAQMD recommends that any construction-related emissions and operational emissions from individual development projects that exceed the project-specific mass daily emissions thresholds identified above also be considered cumulatively considerable.[17] Individual projects that generate emissions not in excess of SCAQMD's significance thresholds would not contribute considerably to any potential cumulative impact. Since the Project's PM2.5 emissions are not in excess of the SCAQMD thresholds, the Project would not contribute to a cumulatively considerable impact. Furthermore, as discussed in Chapter 5, *Initial Study and Environmental Analysis*, of the SCEA (see pages 5-30 through 5-35), Project construction and operations would not generate localized PM2.5 emissions that would exceed the localized PM2.5 significance thresholds; thus, PM2.5 localized air quality impacts would be less than significant.

Regarding traffic noise, agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. Nonetheless, the Project would comply with standards for interior noise. The State has established noise insulation standards for new multi-family residential units, which are collectively known as the California Noise Insulation Standards (Title 24 of the California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dBA CNEL in any habitable room. The Title 24 noise insulation standards would be enforced by the City through the building permit application process. As required by CEQA, the Project's contribution to off-site Project traffic noise was analyzed on pages 5-142 and 5-146 of Chapter 5, *Initial Study and Environmental Analysis*, of the SCEA. As discussed therein, Project-related traffic noise level over existing traffic noise level would be 0.1 dBA CNEL which is lower than the applicable

15 CEC, News Release, May 9, 2018, https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first.

16 Gibson Transportation Consulting, Inc., Transportation Assessment for the 4112 Del Rey Avenue Residential Project, October 2022. Refer to Appendix K of this SCEA.

17 SCAQMD, White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution, chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper.pdf, August 2003.

threshold. Future cumulative traffic noise levels with the Project were also analyzed and noise would increase by 0.1 dBA CNEL, which is below the applicable threshold. The comparison between existing and cumulative traffic conditions results in a noise increase of 1.2 dBA CNEL, which is below the applicable threshold. Therefore, Project-related noise increases resulting from traffic conditions would be less than significant. Cumulative traffic noise increases including the Project would also be less than significant. Thus, the SCEA adequately reviewed and analyzed the additional impacts and cumulative impacts of motor vehicle traffic noise resulting from the Project.

As discussed above, projected traffic noise levels and the annual average PM2.5 concentrations would not exceed the applicable significance thresholds; Therefore, Project traffic noise levels and PM2.5 concentrations would not exceed state and federal standards. Since there are no significant impacts identified, no mitigation measures are required. Therefore, the SCEA did not fail to analyze these issues, as well as the cumulative impacts associated with the Project's emissions. As such, the City does not need to prepare and recirculate an updated SCEA.

Comment SAFER-11

III. The SCEA Violates CEQA Because it Fails to Implement All Feasible Mitigation Measures from the 2020 Connect SoCal Program EIR.

CEQA is clear that a SCEA is only appropriate where "all feasible mitigation measures, performance standards, or criteria set forth in the prior applicable environmental impact reports and adopted in findings made pursuant to Section 21081" are applied to the Project. PRC § 21155.2. In 2020, the South California Association of Governments' ("SCAG") Regional Council formally adopted the Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy ("2020 RTP/SCS"), and the California Air Resources Board accepted it on October 30, 2020. SCAG then adopted the Connect SoCal Program EIR ("2020 PEIR" or "PEIR") for the 2020 RTP/SCS. The 2020 PEIR included a Mitigation Monitoring and Reporting Program ("MMRP") which details regional mitigation measures to be implemented by SCAG and Project-level mitigation measures to be implemented by lead agencies for individual projects (such as the Project at issue here).

Importantly, the MMRP explicitly states that, "for projects seeking to use CEQA streamlining and/or tier from the Connect SoCal Program EIR, project-level mitigation measures included in this Program EIR (or comparable measures) **should be required by the local lead agency as appropriate and feasible**." (emph. added.) Despite the clear directives under CEQA and the Connect SoCal Program EIR that all feasible mitigation measures included in the PEIR must be implemented for a Project to qualify for a SCEA, numerous Project-level mitigation measures from the 2020 PEIR are not included in the SCEA for this Project (p. 4-1).

Among the mitigation measures that the 2020 PEIR requires, the following reflects measures that the SCEA fails to adopt:

- Aesthetics:
    - PMM AES-1: Using graffiti-resistant materials, see-through barrier designs (e.g., railings rather than walls) (SCEA, pp. 4-2 to 4-3);
    - PMM AES-2: Requiring sound-wall construction and design methods, designing sounds to walls to increase visual interest (Id., pp. 4-3 to 4-5);

- PMM AES-3: Using non-reflective glass and screening methods from light- sensitive areas (Id., pp. 4-5 to 4-6);

- Air Quality:
  - PMM AQ-1: Using Tier 4 construction equipment, consulting SCAG's EJ toolbox, installing and monitoring filtration systems, and other related measures (Id., pp. 4-10 to 4-17);

- Biological Resources:
  - PMM BIO-1: Protecting habitat for migratory bird species (Id., pp. 4-17 to 4- 20);
  - PMM BIO-2: Consulting with local, state, and federal agencies (Id., pp. 4-20 to 4-23);

- Greenhouse Gas:
  - PMM GHG-1: Implementing mitigation measures that reduce GHG impacts, such as using energy conservation and efficient materials (Id., pp. 4-47 to 4- 52);

- Hydrology and Water Quality:
  - PMM HYD-1: Implementing a Stormwater Pollution Prevention Plan ("SWPPP") (Id., pp. 4-63 to 4-65);

- Noise:
  - PMM NOI-2: Outfitting construction equipment (Id., pp. 4-76 to 4-77);

- Transportation:
  - PMM TRA-1: Incorporating Transportation Demand Management ("TDM") strategies (Id., pp. 4-83 to 4-85); and

- Solid Waste:
  - PMM-USSW-2: Incorporating waste management plans (Id., pp. 492 to 4-95)

For example, for mitigation measures related to reducing air quality impacts, the 2020 PEIR requires all projects "to use Tier 4 Final equipment or better for all engines above 50 horsepower (hp)." (SCEA, p. 4-13) However, SWAPE explains how the SCEA incorrectly "assum[ed] that the Project's off-road construction equipment fleet would meet Tier 4 final emissions standards [but] remains unsupported as the SCEA fails to explicitly require these standards through formal mitigation measures." (Ex. B, p. 5)

Additionally, the SCEA concludes that the Project would not have the potential to exceed any significance thresholds and therefore would not lead to any violations. In its justification, the SCEA asserts that it has actively not adopted the 2020 PEIR's required mitigation measures because other policies that are equal to or consistent with the PEIR's

mitigation measures, thereby making the 2020 PEIR's mitigation measures no longer applicable. However, this assertion, in part, is incorrect because, as explained by SWAPE and Mr. Offermann's expert analyses above, the SCEA's conclusions, which are based on incorrect information and data, make the SCEA incomplete and unreliable. This means that it is unclear whether the Project will exceed any significance thresholds. And even if the purported policies are included according to the Project's implementation guidelines, the SCEA still fails at proving with substantial evidence that the Project will reduce its impacts to a less-than-significant level.

As such, the SCEA fails to implement a broad suite of feasible mitigation measures included in the PEIR which would further reduce the Project's impacts. The Project thus fundamentally misconstrues the requirements of a SCEA by failing to require implementation of all feasible mitigation measures which were included in the 2020 PEIR.

Response to Comment SAFER-11

The comment states that numerous Project-level mitigation measures from SCAG's 2020 RTP/SCS PEIR are not included in the SCEA for this Project. However, as discussed here as well as in Response to Comment Nos. SAFER-1, SAFER-9, SAFER-12 and SAFER-13, the impact analyses were properly conducted and demonstrate that the Project will not exceed any air quality significance thresholds and no additional mitigation measures are required. As a threshold matter, and as one of CEQA's fundamental precepts, a Project for which a mitigated negative declaration, SCEA, or EIR is being prepared must incorporate all feasible mitigation measures to reduce potentially significant environmental impacts (CEQA Guidelines Section 15126.4(a)). Similarly, CEQA does not require mitigation for effects that are not found to be significant (CEQA Guidelines Section 15126.4(a)(3)). This is further explained in the Section 5.1 (Scope of Analysis) of the SCEA:

> *Project-level mitigation measures outlined in the PEIR should be considered and implemented by a Lead Agency and Project Applicant during project-specific environmental reviews, as applicable and feasible, where the agency has identified that a project has the potential for significant effects. However, since SCAG has no authority to impose mitigation measures, a lead agency must use its independent discretion to determine whether mitigation measures are applicable to projects in their respective jurisdictions. Lead agencies may use, amend, or not use measures identified in this PEIR as appropriate to address project-specific conditions. In compliance with PRC Section 21151.2, the City has reviewed all of the mitigation measures in the 2020- 2045 RTP/SCS PEIR MMRP and determined their potential applicability to the Project. This applicability analysis is included in the analysis below for each environmental issue identified under Appendix G of the of the State CEQA Guidelines. For each mitigation measure, the City determined whether to use: (1) the MMRP's mitigation measure; (2) an equally effective City mitigation measure (consistent with the MMRP mitigation measures); (3) federal, state, regional, or City regulation; or (4) no mitigation, as there was no potential for a significant environmental effect.*

As the commenter itself notes in Comment SAFER-11, the MMRP states that SCAG "identifies project-level mitigation measures that SCAG will encourage local agencies to implement, as ***appropriate*** and feasible, as part of project-specific environmental review."[18] The MMRP goes on to state the following:

> *SCAG has no authority to impose mitigation measures on individual projects for which it is not the lead agency. However, for projects seeking to use CEQA streamlining and/or tier from the Connect SoCal Program EIR, project-level mitigation measures included in this Program EIR (or comparable measures) should be required by the local lead agency as appropriate and feasible. Many lead agencies have existing regulations, policies, and/or standard conditions of approval that address potential impacts. Nothing in the Program EIR is intended to supersede existing regulations and policies of individual jurisdictions. Since SCAG has no authority to impose mitigation measures, mitigation measures to be implemented by local jurisdictions are subject to a lead agency's independent discretion as to whether measures are applicable to projects in their respective jurisdictions. Lead agencies may use, amend, or not use measures identified in this Program EIR as appropriate to address project-specific conditions. The determination of significance and identification of appropriate mitigation is solely the responsibility of the lead agency.*[19]

In compliance with PRC Section 21151.2, the City has reviewed all of the mitigation measures in the MMRP and determined their potential applicability to the Project. This applicability analysis is included in Table 4-1, *Project Consistency with Connect SoCal 2020 Mitigation Measures*, pages 4-1 through 4-99 of the SCEA. For all of the mitigation measures listed by the commenter above, their applicability is discussed in Table 4-1; certain measures were determined as not applicable, while other measures were applicable and feasible and would be substantially implemented by the Project. The Project implemented all applicable and feasible MMRP mitigation measures, and where other project design features or regulatory measures were identified as being applicable to the Project, the SCEA fully discussed these measures (including the incorporation of PDF AIR-1, which as described in Response to Comment SAFER-4, is included in the SCEA's MMP and is therefore an enforceable condition of the Project).

As discussed in Response to Comments SAFER-4 through SAFER-10, the SCEA's impact analyses were properly conducted and demonstrate that the Project will not exceed any air quality significance thresholds and no additional mitigation measures are required.

Comment SAFER-12

a. The Project Must Implement All Feasible Mitigation Measures to Reduce the Project's Significant Air Quality Impacts.

CEQA requires public agencies to avoid or reduce adverse environmental impacts when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (14 CCR § 15002(a)(2) and (3); *see also, Berkeley Jets*, 91 Cal.App.4th 1354, 1354; *Citizens of Goleta Valley v. Bd. of Supr's*, 52 Cal.3d 562, 564. SWAPE and Mr. Offermann propose a comprehensive list of additional mitigation measures and analyses that may

18 SCAG, Exhibit A—Mitigation Monitoring and Reporting Program for the Final Connect SoCal PEIR, May 2020, p. 1 (emphasis added).

19 SCAG, Exhibit A—Mitigation Monitoring and Reporting Program for the Final Connect SoCal PEIR, May 2020, p. 1.

be feasibly implemented to reduce the Project's significant air quality and human health impacts. For example, Mr. Offermann concludes that mitigation measures should be imposed to reduce the risk of formaldehyde exposure. (Id. at 5-6) Mr. Offermann identifies mitigation measures that are available to reduce these significant health risks, including the following:

- Install air filters that efficiently remove PM 2.5;
- Require the Applicant to 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; and
- Provide each room with a 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;

(Id., p. 12-13)

The SCEA fails to incorporate all the required feasible mitigation measures based on its incorrect assertion that the Project's air quality impacts will be less-than-significant. This assertion is not supported by substantial evidence and does not withstand scrutiny. But even if taken at face value, the statement is misguided. This is because CEQA requires SCEA projects to implement "all feasible mitigation measures, performance standards, or criteria set forth in the prior applicable environmental impact reports," regardless of project-level significance determinations. PRC § 21155.2.

Therefore, in order to qualify for a SCEA, the City must revise the Project documents to include all feasible mitigation measures from the 2020 PEIR. In doing so, the City must also adopt all feasible mitigation measures related to reducing the indoor air quality impacts as noted by SWAPE and Mr. Offermann to a less-than-significant level. Unless and until the City takes this essential step to comply with CEQA, the Project is not eligible for a SCEA.

Response to Comment SAFER-12

As discussed in further detail in Response to Comment Nos. SAFER-1, SAFER-9, and SAFER-11, the commenter misconstrues one of the fundamental precepts of CEQA regarding the implementation of mitigation. To interpret PRC Section 21155.2(a) in the manner suggested by the commenter would require every transit priority project to implement every single mitigation measure in a prior EIR, including those included in the SCAG MMRP, provided only that the measure is feasible, and regardless of whether the mitigation measure is in fact applicable. Such an interpretation would require, for example, an urban infill development such as the Project to implement "feasible" mitigation measures pertaining to mineral resources, notwithstanding the absence of any such resources at or near the Project Site. Not only would this be wholly inconsistent with CEQA's fundamental assumptions described in Response to SAFER-11, but it would also directly conflict with the language of the SCAG PEIR MMRP itself, which provides that each identified mitigation measure should be ***considered*** for implementation by the lead agency, as may be ***applicable*** as well as feasible. Furthermore, SCAG's MMRP language makes clear that a lead agency may elect to implement the specific mitigation provisions included in the MMRP itself or instead may implement a comparable measure. This is precisely what was done by the City as lead agency in connection with the Project's

SCEA, which was fully compliant with both SB 375 and the SCAG MMRP. Moreover, as described in detail in Response to Comment SAFER-8, the commenter does not present any credible evidence that the Project would result in significant indoor air quality impacts. Therefore, no mitigation measures regarding this topic are warranted.

Comment SAFER-13

CONCLUSION

The SCEA is improper because it lacks substantial evidence to support its conclusions that the Project will have less than significant air quality impacts. The SCEA additionally fails to comply with CEQA because it fails to incorporate "all feasible mitigation measures, performance standards, or criteria set forth in the prior applicable environmental impact reports," namely, the 2020 Connect SoCal Program EIR. Therefore, SAFER respectfully requests the City to revise the SCEA to comply with CEQA, which includes analyzing and implementing feasible mitigation measures to reduce significant impacts not identified in the SCEA. Thank you for considering these comments.

Response to Comment SAFER-13

This comment requests the City to revise the SCEA to comply with CEQA based on the comments above. As discussed in the responses above and in Response to Comment Nos. IEE-1 through IEE-12 and SWAPE-1 through SWAPE-6, none of the issues raised in this comment letter provide substantial evidence that the SCEA is inadequate. Therefore, no revisions to the SCEA to address concerns raised in this comment letter are necessary.

LETTER FROM INDOOR ENVIRONMENTAL ENGINEERING, DATED AUGUST 20, 2023

Comment IEE-1

Indoor Air Quality Impacts

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.

Indoor Formaldehyde Concentrations Impact. 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 µg/m3, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 µg/m3. The median indoor formaldehyde concentration was 36 µg/m3, and ranged from 4.8 to 136 µg/m3, which corresponds to a median exceedance of the 2 µg/m3 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 µg/m3, 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).

Response to Comment IEE-1

The comment relies on information from several sources, some of which are very outdated, from the early 2000s to 2019, as claimed evidence that the Project would have poor indoor air quality resulting in significant health risks to residents. The research in the cited sources is based on data collected from 70 homes regarding ventilation practices and indoor air quality, including measurements of indoor air concentrations of formaldehyde emitted from composite wood products that might contain formaldehyde-based glues. The research characterized 70 single-family detached structures, located in California, and built between 2011 and 2017. According to the research, the "built in 2011 or later" requirement was used as a proxy for homes built to comply with the 2008 version of the California Title 24 standards.

However, the analyzed building conditions in the cited sources are highly dissimilar to the Project. The Project is a multifamily multistory residential building that would be constructed with steel and concrete in addition to wood products; in contrast, single-family structures such as those included in the referenced study are typically predominantly constructed with wood products. In addition, multifamily developments such as the Project include common open and amenity spaces that provide residential recreation opportunities outside of individual dwelling units; accordingly, Project residents are anticipated to spend less time in their apartments than residents inside of a single-family home and would therefore have lower exposure to potential existing formaldehyde-containing materials. Furthermore, the buildings in the cited studies consisted of homes built to comply with the 2008 version of the California Title 24 standards, whereas the Project would be built in accordance with current State regulations addressing allowable formaldehyde-emitting materials as well as 2022 Title 24 standards, including current ventilation requirements that improve indoor air quality protecting residents from air pollution originating from outdoor and indoor sources.[20] Specifically, as required by 2022 Title 24 standards, the Project would utilize MERV 13 filters that would substantially reduce outdoor air pollutants drawn into the buildings. Given that the comment bases its claims on uses and regulations that are highly dissimilar to those applicable to the Project, the calculations,

[20] CEC, News Release, May 9, 2018, https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first.

including those related to purported formaldehyde cancer risk, are an inaccurate and misleading characterization of the Project and cannot be relied upon as substantial evidence.

Research from a 2020 study (Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. *Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation*), recognizes that newer Title 24 Building Standards have a beneficial effect on reducing formaldehyde levels to an acceptable level. The research study wholly acknowledges that California regulations have been effective in reducing formaldehyde concentrations in homes by stating that "[c]omparisons of indoor formaldehyde…levels with those from a prior study of new homes in California (conducted in 2007-08) suggest that contaminant levels are lower in recently built (after 2008) homes. California's regulation to limit formaldehyde emissions from composite wood products appears to have substantially lowered its emission rate and concentration in new homes."[21] This study further found that the 2019 Title 24 standards result in reduced formaldehyde levels because they include new ventilation requirements that improve indoor air quality protecting residents from air pollution originating from outdoor and indoor sources, such as ventilation airflow rates and duct system specifications in the code.[22] For example, the 2020 research paper stated in its findings that the adopted fan sizing method in the 2019 version of Title 24 includes requirements that ensures there is no structural bias towards higher pollutant exposure in homes using unbalanced ventilation systems, unlike previous Title 24 standards, which could worsen indoor air quality by 20 percent on average.[23] Further, the 2020 research paper found the 2019 Title 24 requirements ensure lower indoor air quality exposures across various home types (e.g., homes with more air leakage, homes with more airtightness) than prior standards.[24]

Therefore, while it is misleading to directly apply results from the cited sources to the Project's multifamily residential uses (for the reasons explained above), the 2020 research paper wholly acknowledges that California regulations have been effective in reducing formaldehyde concentrations in homes and states that "[c]omparisons of indoor formaldehyde…levels with those from a prior study of new homes in California (conducted in 2007-08) suggest that contaminant levels are lower in recently built (after 2008) homes. California's regulation to limit formaldehyde emissions from composite wood products appears to have substantially lowered its emission rate and concentration in new homes."[25] The research paper also states that "[indoor air quality] satisfaction was also similar in the newer homes as compared to homes built in years prior. These results indicate the success of standards."[26]

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21 Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200R1, DOI: 10.20357/B7QC7X.

22 CEC, News Release, May 9, 2018, https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first.

23 Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200R1, DOI: 10.20357/B7QC7X.

24 Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200R1, DOI: 10.20357/B7QC7X.

25 Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200R1, DOI: 10.20357/B7QC7X.

26 Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200R1, DOI: 10.20357/B7QC7X.

The SCAQMD does not have authority by local, state, or federal laws to regulate indoor air quality and the application of the SCAQMD CEQA significance threshold of a cancer risk of 10 in one million does not apply to indoor air quality. Moreover, an effect that a project could have on a project's users is not an impact under CEQA and need not be analyzed in the Project's SCEA. See, e.g., *Parker Shattuck Neighbors v. Berkeley City Council* (2013) 222 Cal.App.4th 768, 782 (Court concluded that alleged health risks to project residents and construction workers from contaminated soils did not constitute a fair argument of an impact to the environment under CEQA. "In general, CEQA does not regulate environmental changes that do not affect the public at large: "the question is whether a project [would] affect the environment of persons in general, not whether a project [would] affect particular persons." [Citations omitted]).

The State of California's regulatory agency with authority over this issue, CARB, has stated that the control measures it has approved for reducing emissions, including formaldehyde, from composite wood products provide a level of control that protects health and safety. CARB makes this point by stating directly in its Frequently Asked Questions for Consumers on Reducing Emissions from Composite Wood Products that, from a public health standpoint, the Composite Wood Products Regulation's emission standards are set at low levels intended to protect public health.[27] The first emission standards (Phase 1) went into effect in 2009. The more stringent Phase 2 standards are now in effect for all composite wood panels and finished goods sold in California. Prior to the CWP Regulation, formaldehyde emissions were often ten to twenty-fold higher than the current allowable levels. The regulation also includes provisions for no-added formaldehyde and ultra-low emitting formaldehyde-based resins, to encourage the use of these lower-emitting resins in composite wood products.[28]

The Project would be required to comply with all applicable City of Los Angeles, state, and federal requirements pertaining to the use of indoor building materials. As the Project will include efficient HVAC systems as discussed in the SCEA, and as the Project will be built to the most current 2022 Title 24 standards, which require the incorporation of designs that would improve indoor air quality and the use MERV 13 filters, substantial evidence demonstrates that compliance with applicable regulations will be effective in reducing indoor formaldehyde concentrations. Therefore, the comment does not represent credible evidence that the Project would pose significant health risks to Project residents from indoor air quality and the City does not need to prepare an updated SCEA.

Comment IEE-2

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 µg/m3 to 28% for the Acute REL of 55 µg/m3.

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27 California Air Resources Board, Frequently Asked Questions for Consumers, Reducing Formaldehyde Emissions from Composite Wood Products, https://ww3.arb.ca.gov/toxics/compwood/consumer_faq.pdf?_ga=2.32900281.682464648.1573169874-1026610208.1565143819. Accessed October 2023.

28 California Air Resources Board, Frequently Asked Questions for Consumers, Reducing Formaldehyde Emissions from Composite Wood Products, https://ww3.arb.ca.gov/toxics/compwood/consumer_faq.pdf?_ga=2.32900281.682464648.1573169874-1026610208.1565143819. Accessed October 2023.

The 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.

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 µg/m3 (18.2 ppb) as compared to a median of 36 µg/m3 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 µg/m3, which is 33% lower than the 36 µg/m3 found in the 2007 CNHS.

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).

Response to Comment IEE-2

As discussed in Response to Comment IEE-1, the comment relies on information that analyzes building conditions that are highly dissimilar to the Project. The Project is a multifamily multistory residential building that would be constructed with steel and concrete in addition to wood products; in contrast, single-family structures such as those analyzed in the study cited by the commenter are typically predominantly constructed with wood products. In addition, multifamily developments such as the Project include common open and amenity spaces that provide residential recreation opportunities outside of individual dwelling units; accordingly, Project residents are anticipated to spend less time in their apartments than residents inside of a single-family home and would therefore have lower exposure to potential existing formaldehyde-containing materials. Furthermore, the buildings in the cited studies consisted of homes built to comply with the 2008 version of the California Title 24 standards, whereas the Project would be built in accordance with current CARB standards regarding formaldehyde emissions as well as the 2022 Title 24 standards, including current ventilation requirements that improve indoor air quality protecting residents from air pollution originating from outdoor and indoor sources.[29] Specifically, as required by 2022 Title 24 standards, the Project would utilize MERV 13 filters that would substantially reduce outdoor air pollutants drawn into the buildings. Given that the comment bases its claims on uses highly dissimilar to the Project, the calculations,

[29] CEC, News Release, May 9, 2018, https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first.

including those related to purported formaldehyde cancer risk, are an inaccurate and misleading characterization of the Project and cannot be relied upon as substantial evidence.

The SCAQMD does not have authority by local, state, or federal laws to regulate indoor air quality and the application of the SCAQMD CEQA significance threshold of a cancer risk of 10 in one million does not apply to indoor air quality. Furthermore, the comment makes an erroneous claim that OEHHA has established a significance threshold applicable to a CEQA analysis of the Project of a cancer risk of 10 in one million for indoor air quality. OEHHA has not adopted a significance threshold applicable to a CEQA analysis of the Project of a cancer risk of 10 in one million for indoor air quality. Additionally, an effect that a project could have on a project's users is not an impact under CEQA and need not be analyzed in the Project's SCEA. See, e.g., *Parker Shattuck Neighbors v. Berkeley City Council* (2013) 222 Cal.App.4th 768, 782 (Court concluded that alleged health risks to project residents and construction workers from contaminated soils did not constitute a fair argument of an impact to the environment under CEQA. "In general, CEQA does not regulate environmental changes that do not affect the public at large: "the question is whether a project [would] affect the environment of persons in general, not whether a project [would] affect particular persons." [Citations omitted]).

The State of California's regulatory agency with authority over this issue, CARB, has stated that the control measures it has approved for reducing emissions, including formaldehyde, from composite wood products provide a level of control that protects health and safety. CARB makes this point by stating directly in its Frequently Asked Questions for Consumers on Reducing Emissions from Composite Wood Products that, from a public health standpoint, the Composite Wood Products (CWP) Regulation's emission standards are set at low levels intended to protect public health.[30] CARB's first emission standards (Phase 1) went into effect in 2009. The more stringent Phase 2 standards are now in effect for all composite wood panels and finished goods sold in California. Prior to the CWP Regulation, formaldehyde emissions were often ten to twenty-fold higher than the current allowable levels. The regulation also includes provisions for no-added formaldehyde and ultra-low emitting formaldehyde-based resins, to encourage the use of these lower-emitting resins in composite wood products.[31]

The Project would be required to comply with all applicable City of Los Angeles, state, and federal requirements pertaining to the use of indoor building materials. As the Project will include efficient HVAC systems as discussed in the SCEA, and as the Project will be built to the 2022 Title 24 standards, which require the incorporation of designs that would improve indoor air quality and the use MERV 13 filters, substantial evidence demonstrates that compliance with applicable regulations will be effective in reducing indoor formaldehyde concentrations. Therefore, the comment does not represent credible evidence that the Project would pose significant health risks to Project residents from indoor air quality and the City does not need to prepare an updated SCEA.

Comment IEE-3

With respect to 4112 Del Rey Avenue Project, Los Angeles, CA, the buildings consist of residential spaces.

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30 California Air Resources Board, Frequently Asked Questions for Consumers, Reducing Formaldehyde Emissions from Composite Wood Products, https://ww3.arb.ca.gov/toxics/compwood/consumer_faq.pdf?_ga=2.32900281.682464648.1573169874-1026610208.1565143819. Accessed October 2023.

31 California Air Resources Board, Frequently Asked Questions for Consumers, Reducing Formaldehyde Emissions from Composite Wood Products, https://ww3.arb.ca.gov/toxics/compwood/consumer_faq.pdf?_ga=2.32900281.682464648.1573169874-1026610208.1565143819. Accessed October 2023.

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 µg/m3 (Singer et. al., 2020).

Assuming that the residential occupants inhale 20 m3 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).

Response to Comment IEE-3

As described in detail in Response to Comment IEE-1 and Response to Comment I-EE-2, the comment relies on information that analyzes building conditions that are highly dissimilar to the Project. The Project is a multifamily multistory residential building that would be constructed with steel and concrete in addition to wood products; in contrast, single-family structures are typically predominantly constructed with wood products. In addition, multifamily developments such as the Project include common open and amenity spaces that provide residential recreation opportunities outside of individual dwelling units; accordingly, Project residents are anticipated to spend less time in their apartments than residents inside of a single-family home and would therefore have lower exposure to potential existing formaldehyde-containing materials. Furthermore, the buildings in the cited studies consisted of homes built to comply with the 2008 version of the California Title 24 standards, whereas the Project would be built to the 2022 Title 24 standards, including current ventilation requirements that improve indoor air quality protecting residents from air pollution originating from outdoor and indoor sources.[32] Specifically, as required by 2022 Title 24 standards, the Project would utilize MERV 13 filters that would substantially reduce outdoor air pollutants drawn into the buildings. Given that the comment bases its claims on uses highly dissimilar to the Project, the calculations, including those related to purported formaldehyde cancer risk, are an inaccurate and misleading characterization of the Project and cannot be relied upon as substantial evidence.

Furthermore, the SCAQMD does not have authority by local, state, or federal laws to regulate indoor air quality and the application of the SCAQMD CEQA significance threshold of a cancer risk of 10 in one million does not apply to indoor air quality. Additionally, as described in detail in Response to Comment IEE-1 and Response to Comment I-EE-2, an effect that a project could have on a project's users is not an impact under CEQA and need not be analyzed in the Project's SCEA. Thus, the City does not need to prepare an updated SCEA.

[32] CEC, News Release, May 9, 2018, https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first.

Comment IEE-4

In addition, we note that the average outdoor air concentration of formaldehyde in California is 3 ppb, or 3.7 µg/m3, (California Air Resources Board, 2004), and thus represents an average pre-existing background airborne cancer risk of 1.85 per million. Thus, the indoor air formaldehyde exposures describe above exacerbate this pre-existing risk resulting from outdoor air formaldehyde exposures.

Response to Comment IEE-4

As described in detail in Response to Comment IEE-1 and Response to Comment I-EE-2, the comment bases its claims regarding formaldehyde cancer risk on an inaccurate and misleading characterization of the Project and the comment's purported formaldehyde cancer risk calculations cannot be relied upon as substantial evidence. Therefore, given that an effect that a project could have on a project's users is not an impact under CEQA, and given that the commenter does not present credible evidence that the Project would result in significant indoor air quality impacts, no further analysis is warranted. Additionally, since Project impacts are less than significant, mitigation measures, including the mitigation measures suggested by the commenter, are not required. The City does not need to prepare an updated SCEA.

Comment IEE-5

Additionally, the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V") identifies an existing cancer risk at the Project site of 503 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air.

Response to Comment IEE-5

The comment raises issues related to the existing cancer risk from the SCAQMD's MATES V study and risks from exposure to formaldehyde in both indoor and outdoor air. The SCAQMD Multiple Air Toxics Exposure Study V (MATES V) is the fifth iteration of the SCAQMD's air toxics report for the South Coast Air Basin. A key takeaway from the MATES V study is that modeling data shows that the average air toxics cancer risk in the South Coast Air Basin has decreased by about 50 percent since the prior MATES IV study (an average air toxics cancer risk in MATES V of 455 in one million compared to MATES IV of 997 in one million).[33] The SCAQMD has prepared a series of maps that represent the estimated number of potential cancers per million people associated with a lifetime of breathing air toxics (24 hours per day outdoors for 70 years). The background cancer risk per million people in the Project area is estimated at 503 in one million.[34]

Agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. However, as required by CEQA, the Project's contribution to emissions and localized air quality impacts from Project construction and operations were evaluated in Chapter 5, *Initial Study and Environmental Analysis*, of the SCEA. As determined therein, Project construction and operations would not

33 SCAQMD, 2021. Final Report Multiple Air Toxics Exposure Study in the South Coast Air Basin MATES V, August 2021.
34 SCAQMD, Multiple Air Toxics Exposure Study, MATES V Data Visualization Tool, Cancer Risk.

generate emissions that would exceed the air quality significance thresholds and air quality impacts would be less than significant.

Furthermore, as discussed in detail in Response to Comment IEE-1 and Response to Comment IEE-2, the comment bases its claims regarding formaldehyde cancer risk on an inaccurate and misleading characterization of the Project and the comment's purported formaldehyde cancer risk calculations cannot be relied upon as substantial evidence.

Therefore, given that an effect that a project could have on a project's users is not an impact under CEQA, and given that the commenter does not present credible evidence that the Project would result in significant indoor air quality impacts, no further analysis is warranted. Additionally, since Project impacts are less than significant, mitigation measures, including the mitigation measures suggested by the commenter, are not required. The City does not need to prepare an updated SCEA.

Comment IEE-6

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.

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.

Response to Comment IEE-6

As described in detail in Response to Comment IEE-1 and Response to Comment IEE-2, the comment relies on information that analyzes building conditions that are highly dissimilar to the Project. Given that the comment bases its claims on uses highly dissimilar to the Project, the calculations, including those related to purported formaldehyde cancer risk, are an inaccurate and misleading characterization of the Project and cannot be relied upon as substantial evidence.

The SCAQMD does not have authority by local, state, or federal laws to regulate indoor air quality and the application of the SCAQMD CEQA significance threshold of a cancer risk of 10 in one million does not apply to indoor air quality. Furthermore, the comment makes an erroneous claim that OEHHA has established a significance threshold applicable to a CEQA analysis of the Project of a cancer risk of 10 in one million for indoor air quality. OEHHA has not adopted a significance threshold applicable to a CEQA analysis of the Project of a cancer risk of 10 in one million for indoor air quality. Additionally, an effect that a project could have on a project's users is not an impact under CEQA and need not be analyzed in the Project's SCEA. See, e.g., *Parker Shattuck Neighbors v. Berkeley City Council* (2013) 222 Cal.App.4th 768, 782 (Court concluded that alleged health risks to project residents and construction workers from contaminated soils did not constitute a fair argument of an impact to the environment under CEQA. "In general, CEQA does not regulate environmental changes that do not affect the public

at large: "the question is whether a project [would] affect the environment of persons in general, not whether a project [would] affect particular persons." [Citations omitted]).

The State of California's regulatory agency with authority over this issue, CARB, has stated that the control measures it has approved for reducing emissions, including formaldehyde, from composite wood products provide a level of control that protects health and safety. CARB makes this point by stating directly in its Frequently Asked Questions for Consumers on Reducing Emissions from Composite Wood Products that, from a public health standpoint, the Composite Wood Products Regulation's emission standards are set at low levels intended to protect public health.[35] The first emission standards (Phase 1) went into effect in 2009. The more stringent Phase 2 standards are now in effect for all composite wood panels and finished goods sold in California. Prior to the CWP Regulation, formaldehyde emissions were often ten to twenty-fold higher than the current allowable levels. The regulation also includes provisions for no-added formaldehyde and ultra-low emitting formaldehyde-based resins, to encourage the use of these lower-emitting resins in composite wood products.[36]

The Project would be required to comply with all applicable City of Los Angeles, state, and federal requirements pertaining to the use of indoor building materials. As the Project will include efficient HVAC systems as discussed in the SCEA, and as the Project will be built to the 2022 Title 24 standards, which require the incorporation of designs that would improve indoor air quality and the use MERV 13 filters, substantial evidence demonstrates that compliance with applicable regulations will be effective in reducing indoor formaldehyde concentrations. Therefore, the comment does not represent credible evidence that the Project would pose significant health risks to Project residents from indoor air quality and the City does not need to prepare an updated SCEA.

Comment IEE-7

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

35 California Air Resources Board, Frequently Asked Questions for Consumers, Reducing Formaldehyde Emissions from Composite Wood Products, https://ww3.arb.ca.gov/toxics/compwood/consumer_faq.pdf?_ga=2.32900281.682464648.1573169874-1026610208.1565143819. Accessed October 2023.

36 California Air Resources Board, Frequently Asked Questions for Consumers, Reducing Formaldehyde Emissions from Composite Wood Products, https://ww3.arb.ca.gov/toxics/compwood/consumer_faq.pdf?_ga=2.32900281.682464648.1573169874-1026610208.1565143819. Accessed October 2023.

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.

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., m2 of material/m2 floor area, units of furnishings/m2 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).

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/m2-h) and the area (m2) 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/m2-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/m2-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 µg/m2-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.

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.

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (µg/m3) 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 (m3/h) for the IAQ Zone.

(Equation 1) where:

C_{in} = indoor formaldehyde concentration (µg/m3)

E_{total} = total formaldehyde emission rate (µg/h) into the IAQ Zone.

Q_{oa} = design minimum outdoor air ventilation rate to the IAQ Zone (m3/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section

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.

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.

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.

Response to Comment IEE-7

As discussed in detail in Response to Comment IEE-1 through Response to Comment IEE-6, the commenter repeatedly relies on information that analyzes building conditions that are highly dissimilar to the Project, makes unsubstantiated claims regarding applicable air quality thresholds, and offers risk calculations, including those related to purported formaldehyde cancer risk, which reflect an inaccurate and misleading characterization of the Project and cannot be relied upon as substantial evidence. Moreover, as discussed in the above responses, the effect that a project could have on a project's users is not an impact under CEQA. Given that the commenter does not present credible evidence that the Project would result in significant indoor air quality impacts, no further analysis is warranted. Additionally, since Project impacts are less than significant, mitigation measures, including the mitigation measures suggested by the commenter, are not required.

Comment IEE-8

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.

According to the Sustainable Communities Environmental Assessment - 4112 Del Rey Avenue Project, Los Angeles (ESA, 2023), the Project is close to roads with moderate to high traffic (e.g., Del Ray Avenue, Lincoln Boulevard, West Washington Boulevard, Glencoe Avenue, etc.).

The Sustainable Communities Environmental Assessment - 4112 Del Rey Avenue Project, Los Angeles (ESA, 2023), states in Table 5-23 that the modeled future traffic ambient noise levels with the Project range from 56.9 to 74.6 dBA CNEL .

In order to design the building for this Project such that interior noise levels are acceptable, an acoustic study with actual on-site measurements of the existing ambient noise levels and modeled future ambient noise levels needs to be conducted. The acoustic study of the existing ambient noise levels should be conducted over a one-week period. and report the dBA CNEL or Ldn. This study will allow for the selection of a building envelope and windows with a sufficient STC such that the indoor noise levels are acceptable. A mechanical supply of outdoor air ventilation to allow for a habitable interior environment with closed windows and doors will also be requires. 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.

Response to Comment IEE-8

The comment raises issues related to air ventilation rates. Unlike the homes that were characterized in the prior cited studies, the Project would be built to the 2022 Title 24 standards, including ventilation requirements that improve indoor air quality protecting residents from air pollution originating from outdoor and indoor sources.[37] Specifically, as required by 2022 Title 24 standards, the Project would utilize MERV 13 filters that would substantially reduce outdoor air pollutants drawn into the buildings. Research from a 2020 study (Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. *Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation*), recognizes that newer Title 24 Building Standards includes new ventilation requirements that improve indoor air quality protecting residents from air pollution originating from outdoor and indoor sources, such as ventilation airflow rates and duct system specifications in the code.[38] For example, the 2020 research paper stated in its findings that the adopted fan sizing method in the 2019 version of Title 24 includes requirements that ensures there is no structural bias towards higher pollutant exposure in homes using unbalanced ventilation systems,

37 CEC, News Release, May 9, 2018, https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first.

38 CEC, News Release, May 9, 2018, https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first.

unlike previous Title 24 standards, which could worsen indoor air quality by 20 percent on average.[39] Further, the 2020 research paper found the 2019 Title 24 requirements ensure lower indoor air quality exposures across various home types (e.g., homes with more air leakage, homes with more airtightness) than prior standards.[40] Thus, comment bases its claims on uses that meet older standards and as such are highly dissimilar to the Project and the information presented in the comment are an inaccurate and misleading characterization of the Project and cannot be relied upon as substantial evidence.

The comment also raises issues related to the Project's proximity to roads with moderate to high traffic and future traffic ambient noise levels, claiming that interior noise levels may not be acceptable. However, the State has established noise insulation standards for new multi-family residential units, hotels, and motels. These requirements are collectively known as the California Noise Insulation Standards (Title 24 of the California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dBA CNEL in any habitable room. The standards require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to exterior noise levels greater than 60 dBA CNEL. Title 24 standards are typically enforced by local jurisdictions through the building permit application process. Therefore, the concerns raised by the commenter would be fully addressed through the Project's required compliance with existing regulatory standards. No mitigation measures are required, and the City does not need to prepare an updated SCEA.

Comment IEE-9

PM2.5 Outdoor Concentrations Impact. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of PM2.5. According to the Sustainable Communities Environmental Assessment - 4112 Del Rey Avenue Project, Los Angeles (ESA, 2023), the Project is located in the South Coast Air Basin, which is a State and Federal non-attainment area for PM2.5.

Additionally, the SCAQMD's MATES V study cites an existing cancer risk of 503 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic.

An air quality analyses should be conducted to determine the concentrations of PM2.5 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 PM2.5 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 PM2.5 exceedence concentration of 12 µg/m3, or the National 24-hour average exceedence concentration of 35 µg/m3, 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 PM2.5 particles is less than the California and National PM2.5 annual and 24-hour standards.

39 Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200R1, DOI: 10.20357/B7QC7X.

40 Chan, W.R., Kim, Y., Singer, B.C., and Walker I. 2020. Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200R1, DOI: 10.20357/B7QC7X.

It is my experience that based on the projected high traffic noise levels, the annual average concentration of PM2.5 will exceed the California and National PM2.5 annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. MERV 13 or higher) in all mechanically supplied outdoor air ventilation systems.

Response to Comment IEE-9

The comment raises issues related to the existing concentrations of PM2.5, the existing air quality designation of the South Coast Air Basin as nonattainment for the state and federal PM2.5 standards, the existing cancer risk from the SCAQMD's MATES V study, and the installation of high efficiency air filters.

As stated in Chapter 5, *Initial Study and Environmental Analysis*, of the SCEA (page 5-19), the South Coast Air Basin is designated as non-attainment for PM2.5 under both the federal and state standards, which means that concentrations of PM2.5 in recent years at one or more ambient outdoor monitoring locations in the South Coast Air Basin exceed an annual average concentration of 12 $\mu g/m^3$ and/or a daily average concentration of 35 $\mu g/m^3$. The SCAQMD MATES V is the fifth iteration of the SCAQMD's air toxics report for the South Coast Air Basin. A key takeaway from the MATES V study is that modeling data shows that the average air toxics cancer risk in the South Coast Air Basin has decreased by about 50 percent since the prior MATES IV study (an average air toxics cancer risk in MATES V of 455 in one million compared to MATES IV of 997 in one million).[41] The SCAQMD has prepared a series of maps that represent the estimated number of potential cancers per million people associated with a lifetime of breathing air toxics (24 hours per day outdoors for 70 years). The background cancer risk per million people in the Project area is estimated at 503 in one million.[42]

Agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. However, as required by CEQA, the Project's contribution to localized PM2.5 emissions concentrations and localized air quality impacts from Project construction and operations were evaluated in Chapter 5, *Initial Study and Environmental Analysis*, of the SCEA (see pages 5-30 through 5-35). As determined therein, Project construction and operations would not generate PM2.5 emissions that would exceed the PM2.5 significance thresholds and PM2.5 localized air quality impacts would be less than significant.

Moreover, as required by 2022 Title 24 standards, the Project would install MERV 13 filters, which would substantially reduce outdoor air pollutants drawn into the buildings. Based on the above, the City does not need to prepare an updated SCEA.

Comment IEE-10

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

41 SCAQMD, 2021. Final Report Multiple Air Toxics Exposure Study in the South Coast Air Basin MATES V, August 2021.

42 SCAQMD, Multiple Air Toxics Exposure Study, MATES V Data Visualization Tool, Cancer Risk.

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.

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.

Response to Comment IEE-10

As discussed in detail in Response to Comment IEE-1 through Response to Comment IEE-9, the commenter repeatedly relies on information that analyzes building conditions that are highly dissimilar to the Project, makes unsubstantiated claims regarding applicable air quality thresholds, and offers risk calculations, including those related to purported formaldehyde cancer risk, which reflect an inaccurate and misleading characterization of the Project and cannot be relied upon as substantial evidence. Moreover, as discussed in the above responses, the effect that a project could have on a project's users is not an impact under CEQA. Given that the commenter does not present credible evidence that the Project would result in significant indoor air quality impacts, no further analysis is warranted. Additionally, since Project impacts are less than significant, mitigation measures, including the mitigation measures suggested by the commenter, are not required.

Comment IEE-11

Outdoor Air Ventilation Mitigation. Provide each 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/ft2 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.

Response to Comment IEE-11

The Project would be built to the 2022 Title 24 standards, including ventilation requirements that improve indoor air quality protecting residents from air pollution originating from outdoor and indoor sources.[43] As discussed in Response to Comment IEE-8, newer Title 24 Building Standards includes new ventilation requirements that improve indoor air quality protecting residents from air pollution originating from outdoor and indoor sources, such as ventilation airflow rates and duct system specifications in the code.[44] As required by 2022 Title 24 standards, the Project would install MERV 13 filters, which would substantially reduce outdoor air pollutants drawn into the buildings. As such, the Project would meet or exceed the California 2016 Building Energy Efficiency Standards. Maintenance of building systems including air filtration systems would be the responsibility of the building operator and conducted as part of routine building maintenance. As neither the SCEA nor the claims made by the commenter demonstrate any potential for impacts pertaining to indoor air quality, no mitigation measures are required.

Comment IEE-12

PM2.5 Outdoor Air Concentration Mitigation. Install air filtration with sufficient PM2.5 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 PM2.5 particles are less than the California and National PM2.5 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.

Response to Comment IEE-12

The Project would be built to the 2022 Title 24 standards. As required by 2022 Title 24 standards, the Project would install MERV 13 filters, which would substantially reduce outdoor air pollutants drawn into the buildings. Maintenance of building systems including air filtration systems would be the responsibility of the building operator and conducted as part of routine building maintenance. As neither the SCEA nor the claims made by the commenter demonstrate any potential for impacts pertaining to indoor air quality, no mitigation measures are required.

LETTER FROM SWAPE, DATED AUGUST 24, 2023

Comment SWAPE-1

Dear Mr. Abubo,

We have reviewed the July 2023 Sustainable Communities Environmental Assessment ("SCEA") for the 4112 Del Rey Mixed-Use Project ("Project") located in the City of Los Angeles ("City"). The Project proposes to construct 210 residential units and 282 vehicular parking spaces on the 2.83-acre site.

43 CEC, News Release, May 9, 2018, https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first.

44 CEC, News Release, May 9, 2018, https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first.

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

Response to Comment SWAPE-1

This comment introduces the commenter, provides an overview of the Project, and introduces comments provided below. Specifically, the commenter claims that the City should prepare an updated SCEA to adequately assess and mitigate the potential air quality impacts that the project may have on the environment related to the proposed Project's construction and operational emissions and health risk impacts. As discussed in the responses below, this comment letter does not provide credible evidence that the SCEA is inadequate as an informational document or in terms of its analysis, does not appropriately implement mitigation measures, or otherwise fails to comply with CEQA. Therefore, the SCEA appropriately complies with CEQA requirements applicable to the Project and the City is not required to prepare an updated SCEA.

Comment SWAPE-2

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The SCEA's air quality analysis relies on emissions calculated with California Emissions Estimator Model ("CalEEMod") Version 2020.4.0 (p. 5-27, 5-28).[1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters are utilized in calculating the Project's air pollutant emissions and make known which default values are changed as well as provide justification for the values selected.

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

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

Response to Comment SWAPE-2

The commenter claims input values into CalEEMod were not consistent with information disclosed in the SCEA and as such, the Project's construction and operational emissions may be underestimated and that an EIR should be prepared to include an updated air quality analysis. The specific issues raised by the commenter with regards to specific input values into CalEEMod are discussed in more detail in the comments below. As discussed in the responses below, the input values into CalEEMod are consistent with information disclosed in the SCEA and do not underestimate the Project's construction and operational emissions. Thus, the SCEA appropriately complies with CEQA requirements applicable to the Project and the City is not required to prepare an EIR or an updated SCEA.

Comment SWAPE-3

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the "LaTerra Del Rey" model includes several changes to the default individual construction phase lengths (see excerpt below) (Appendix A, pp. 31, 61; Appendix G, pp. 25).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	6.00	66.00
tblConstructionPhase	NumDays	220.00	63.00
tblConstructionPhase	NumDays	220.00	305.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	10.00	65.00

As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix A, pp. 36, 66; Appendix G, pp. 30).

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	9/1/2024	10/31/2024	5	44
2	Grading/Excavation	Grading	11/1/2024	1/31/2025	5	66
3	Mat Foundation	Building Construction	2/1/2025	4/30/2025	5	63
4	Building Construction	Building Construction	6/1/2025	7/31/2026	5	305
5	Paving	Paving	5/1/2025	5/31/2025	5	22
6	Architectural Coating	Architectural Coating	8/1/2026	10/31/2026	5	65

As demonstrated above, the demolition phase is increased by 110%, from the default value of 20 to 44 days; the "Grading/Excavation" coating phase is increased by 1,000%, from the default value of 6 to 66 days; the "Mat Foundation" phase is decreased by 98%, from the default value of 220 to 63 days; the building construction phase is increased by 39%, from the default value of 220 to 305 days; the paving phase is increased by 120%, from the default value of 10 to 22 days; and the architectural coating phase is increased by 550%, from the default value of

10 to 65 days. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[2] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is:

> "Project construction schedule supplied by Applicant" (Appendix A, pp. 29, 59; Appendix G, pp. 23).

Regarding construction activities, the SCEA states:

> "Construction of the Project would commence as early as September 2024. Construction would be completed as early as August 2026" (p. 2-16).

However, the changes to the individual construction phase lengths remain unsubstantiated. While the SCEA states that the total length of Project construction would be 24 months, the SCEA fails to substantiate the individual construction phase lengths. Until the above-mentioned construction schedule is provided, the model should have included proportionately altered individual phase lengths to match the proposed construction duration of 24 months.

The construction schedule included in the model presents an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not for others. According to the CalEEMod User's Guide, each construction phase is associated with different emissions activities (see excerpt below).[3]

Demolition involves removing buildings or structures.

Site Preparation involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.

Grading involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.

Building Construction involves the construction of the foundation, structures and buildings.

Architectural Coating involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.

Paving involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.

By disproportionately altering and extending some of the individual construction phase lengths without proper justification, the model assumes there are a greater number of days to complete the construction activities required by the prolonged phases. As a result, there will be less construction activities required per day and, consequently, less pollutants emitted per day. Until we are able to verify the revised construction schedule, the model may underestimate the peak daily emissions associated with some phases of construction and should not be relied upon to determine Project significance.

[2] "CalEEMod User's Guide Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.

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

Response to Comment SWAPE-3

The commenter states that the changes to the individual construction phase length inputs into CalEEMod were unsubstantiated and may underestimate the peak daily emissions associated with some phases of construction and should not be relied upon to determine Project significance. The commenter also incorrectly states that the Project's anticipated construction schedule has not been provided, despite the fact that the comment itself includes the Project construction schedule included in the SCEA and the associated CalEEMod output files.

As discussed in the CalEEMod User's Guide (Pages 30 through 31),[45] the construction tab contains default information obtained from a survey conducted by the SCAQMD of construction sites with a range of project types and sizes and provides a default construction phase length data based on the total lot acreage of a project. The CalEEMod Users Guide states: "If the user has more detailed site-specific equipment and phase information, the user should override the default values."[46] Following this guidance, the modeling performed for the SCEA utilized certain Project-specific data instead of default values. These changes were justified in the CalEEMod worksheets included in the SCEA.

The commenter asserts that the changes to CalEEMod's default inputs were not justified. However, consistent with the CalEEMod User's Guide direction noted above, the SCEA used Project-specific construction data including the anticipated construction schedule from the Project construction team, which was applied in the air quality modeling as provided in Appendix A of the SCEA. Specifically, the CalEEMod User's Guide states on page 18: "[t]o indicate when construction of the project will begin, the user will need to insert a date in the Start of Construction field. The date when construction will start triggers a rolling calendar that starts with the construction start date and follows by various construction phases that will be populated with default date ranges in the Construction screen." In this case, the default date ranges for the construction subphases were changed based on the Project-specific information as provided by the Project Applicant and is reflected in the CalEEMod output files (PDF page 66 of SCEA Appendix A). As shown in Appendix A, PDF page 29, the user-entered comments and non-default data explanation for the Construction Phase states, "[p]roject construction schedule supplied by the Applicant." Therefore, proper explanation was provided for the changes to the construction schedule. Further, the CalEEMod User's Guide contains no requirement that construction phase lengths must be adjusted proportionately. On the contrary, as discussed above, the CalEEMod User's Guide states that more detailed site-specific phase information should override the default values. This is what was done for the SCEA. Thus, the commenter's assertion that the CalEEMod default construction schedule for various construction phases must be adjusted proportionately is not supported by any evidence whatsoever.

[45] California Air Pollution Control Officers Association, California Emissions Estimator Model, User's Guide, Version 2020.4.0, page 30-31, May 2021.

[46] California Air Pollution Control Officers Association, California Emissions Estimator Model, User's Guide, Version 2020.4.0, page 11, May 2021.

Based on the above, the construction schedule entered into CalEEMod was based on Project-specific data and accordingly allows an appropriate analysis of the Project's anticipated construction period emissions, and the commenter offers no evidence whatsoever to the contrary. The City is not required to prepare an updated SCEA.

Comment SWAPE-4

Unsubstantiated Reductions to Off-Road Construction Equipment Unit Amounts

Review of the CalEEMod output files demonstrates that the "LaTerra Del Rey" model includes several changes to the off-road construction equipment unit amounts (see excerpt below) (Appendix A, pp. 32, 62; Appendix G, pp. 26).

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[4] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is:

> "With PDF AIR-1" (Appendix A, pp. 29, 59; Appendix G, pp. 23).

However, these justifications are insufficient, as the SCEA fails to mention or provide a source for the Project's anticipated construction equipment list. As previously discussed, according to the CalEEMod User's Guide:

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

As such, until SCEA and associated documents provide additional information that substantiates the revised construction equipment list, we are unable to verify the changes.

These unsubstantiated changes present an issue, as CalEEMod uses the off-road construction equipment input parameters to calculate the emissions associated with off-road construction equipment.[6] By including unsubstantiated changes to the default off-road construction equipment unit amounts the model may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

4 "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. 2, 9

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

6 "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: https://www.aqmd.gov/caleemod/user's-guide, p. 33, 34.

Response to Comment SWAPE-4

The commenter states that the construction equipment inputs into CalEEMod were unsubstantiated and that the model may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

As discussed in the CalEEMod User's Guide (Pages 30 through 31),[47] the construction tab contains default information obtained from a survey conducted by the South Coast Air Quality Management District (SCAQMD) provides a default construction equipment list and phase length data based on the total lot acreage of a project. The CalEEMod Users Guide states: "If the user has more detailed site-specific equipment and phase information, the user should override the default values."[48] Following this guidance, the modeling performed for the SCEA utilized certain project-specific data instead of default values. These changes were justified in the CalEEMod worksheets included in the SCEA. The CalEEMod Users Guide further on page 33 "[i]f equipment-specific information is available, the user can override these default values." In this case, the default date ranges for the construction subphases as well as the default construction equipment values were changed based on the Project-specific information as provided by the Project Applicant and is reflected in the CalEEMod output files. As stated on page 5-28 of Chapter 5, *Initial Study and Environmental Analysis*, of the SCEA, "[t]he input values used in this analysis were adjusted to be Project-specific based on equipment types and the construction schedule provided by the Project's representative." Therefore, proper explanation was provided for the changes to the construction equipment mix. As such, the construction equipment entered into CalEEMod was based on Project-specific data and accordingly allow an appropriate analysis of the Project's anticipated construction period emissions, and the commenter offers no evidence whatsoever to the contrary. The City is not required to prepare an updated SCEA.

Comment SWAPE-5

Incorrect Application of Tier 4 Final Mitigation

47 California Air Pollution Control Officers Association, California Emissions Estimator Model, User's Guide, Version 2020.4.0, page 30-31, May 2021.

48 California Air Pollution Control Officers Association, California Emissions Estimator Model, User's Guide, Version 2020.4.0, page 11, May 2021.

Review of the CalEEMod output files demonstrates that the "LaTerra Del Rey" model includes the following construction-related mitigation measures (see excerpt below) (Appendix A, pp. 38, 68; Appendix G, pp. 32).

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

As a result, the model assumes that the Project's off-road construction equipment fleet would meet Tier 4 final emissions standards (see excerpt below) (Appendix A, pp. 30, 31, 60, 61; Appendix G, pp. 24, 25).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

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:

> "With SCAQMD Rule 403 compliance (watering x3 daily). With PDF AIR-1." (Appendix A, pp. 30, 60; Appendix G, pp. 24).

However, the assumption that the Project's off-road construction equipment fleet would meet Tier 4 final emissions standards remains unsupported as the SCEA fails to explicitly require these standards through formal mitigation measures. This is incorrect, as according to the Association of Environmental Professionals ("AEP") CEQA Portal Topic Paper on mitigation measures:

> "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."[8]

As demonstrated in the excerpt above, measures that are not formally included in the mitigation monitoring and reporting program ("MMRP") may be eliminated from the Project's design altogether. As the use of construction equipment with Tier 4 final emissions standards are not formally included as mitigation measures, we cannot guarantee that these standards would be implemented, monitored, and enforced on the Project site. Consequently, the model's assumption that the off-road construction equipment fleet would adhere to Tier 4 final emissions standards is incorrect.

[7] "CalEEMod User's Guide Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.

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

Response to Comment SWAPE-5

The commenter claims input values into CalEEMod were inconsistent with the Project description and unsupported due to the Project's incorporation of PDF AIR-1; however, this claim is incorrect. As discussed in Chapter 5, *Initial Study and Environmental Analysis*, of the SCEA (page 5-26), PDF AIR-1 includes various measures to minimize construction-related emissions, including a requirement that "off-road diesel-powered equipment within the construction inventory shall meet the Tier 4 final off-road emissions standards within the Los Angeles region." PDF AIR-1, along with all other project design features identified in the SCEA, are express features of the Project, and will be both incorporated as enforceable conditions of approval for the Project and included in the SCEA's mitigation monitoring program (MMP) along with relevant details regarding enforcement and monitoring agencies, timing requirements, and actions indicating compliance.

Pursuant to CEQA, mitigation measures are not part of the original project design, but instead are actions taken by the lead agency to reduce impacts to the environment resulting from the original project design. (CEQA Guidelines Sections 15126.4(a) and 15370.) Mitigation measures are identified by the lead agency while a project is undergoing environmental review, and not finalized until the end of the environmental review process, and are above-and-beyond existing laws, regulations, and requirements that would reduce environmental impacts. Moreover, CEQA encourages the incorporation of project elements that would reduce or avoid any potential significant impacts. Accordingly, many projects include avoidance and minimization measures or environmental commitments into the project design as part of the project description. The CEQA Guidelines also reference these types of features in Section 15064(f)(2) and Section 15126.4(a)(1)(A). Project design features are not considered mitigation measures because they are part of the project that is undergoing environmental review.

To account for the Project's utilization of Tier 4 construction equipment in CalEEMod, PDF AIR-1 must be applied as a mitigation measure within the modeling program; this application of PDF AIR-1 to the Project is documented in the CalEEMod outputs under Mitigation Measures Construction as Use Cleaner Engines for Construction Equipment (Appendix A PDF page 68 of the SCEA). Therefore, the inputs to CalEEMod as reflected in the SCEA

are correct, and do not result in air quality emissions that are underestimated. No revisions to the SCEA or further analysis is required.

Comment SWAPE-6

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.

Response to Comment SWAPE-6

This comment provides a disclaimer about SWAPE's letter. The comment does not raise any issues with respect to the content or adequacy of the SCEA and is noted for the record.

Attachments

Attachment 1 – Original Lozeau Drury LLP Comment Letter with IEE and SWAPE attachments

ATTACHMENT 1

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Re: Comment on Sustainable Communities Environmental Assessment for the 4112 Del Rey Ave. Project (ENV-2022-9017-SCEA)

Dear Hearing Officer:

I am writing on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the proposed Sustainable Communities Environmental Assessment ("SCEA") prepared for the 4112 Del Rey Avenue Project in the City of Los Angeles (ENV-2022-9017-SCEA), including all actions referring to the development of a six-story residential development comprised of 282 residential dwelling units and up to 253,974 square feet of residential space on a 2.8 acre site.

After reviewing the SCEA, SAFER respectfully requests that the City of Los Angeles ("City") refrain from taking any action on the Project and SCEA at this time because (1) the SCEA's conclusions about the Project's impacts to air quality are not supported by substantial evidence, and (2) the SCEA fails to incorporate all feasible mitigation measures from a prior environmental impact report (EIR). These comments are supported by the expert comments of air quality experts Certified Industrial Hygienist, Francis "Bud" Offermann, PC, CIH, and the environmental consulting firm, Soil/Water/Air Protection Enterprise ("SWAPE"). Mr. Offermann's and SWAPE's comments are attached as Exhibits A and B, respectively, and are incorporated herein by reference.

PROJECT DESCRIPTION

The Project includes the construction of a six-story (66-foot-tall) mid-rise building consisting of 210 residential units, including 18 very-low-income (VLI) units. The Project would also include 282 vehicular parking spaces within five above-grade parking levels. The Project site is currently occupied by six one-story creative office and warehouse buildings and associated surface parking.

LEGAL BACKGROUND AND STANDARD

I. Sustainable Communities Environmental Assessment under SB 375.

CEQA allows for the streamlining of environmental review for "transit priority projects" meeting certain criteria. (Pub. Res. Code §§ 21155, 21155.1, 21155.2) To qualify as a transit priority project, a project must

> (1) contain at least 50 percent residential use, based on total building square footage, and, if the project contains between 26 percent and 50 percent nonresidential uses, a floor area ratio of not less than 0.75;
> (2) provide a minimum net density of at least 20 dwelling units per acre; and
> (3) be within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan.
>
> (PRC § 21155(b))

A transit priority project is eligible for CEQA's streamlining provisions where,

> [The transit priority project] is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, for which the State Air Resources Board . . . has accepted a metropolitan planning organization's determination that the sustainable communities strategy or the alternative planning strategy would, if implemented, achieve the greenhouse gas emission reduction targets.
>
> (PRC § 21155(a).)

II. The Project's SCEA must be supported by Substantial Evidence.

If "all feasible mitigation measures, performance standards, or criteria set forth in the prior applicable environmental impact reports and adopted in findings made pursuant to Section 21081" are applied to a transit priority project, the project is eligible to conduct environmental review using a sustainable communities environmental assessment ("SCEA"). (PRC § 21155.2.) A SCEA must contain an initial study which "identif[ies] all significant or potentially significant impacts of the transit priority project . . . based on substantial evidence in light of the whole record." (PRC § 21155.2(b)(1).) The initial study must also "identify any cumulative effects that have been adequately addressed and mitigated pursuant to the requirements of this division in prior applicable certified environmental impact reports." (*Id*.)

The SCEA must then "contain measures that either avoid or mitigate to a level of insignificance all potentially significant or significant effects of the project required to be

identified in the initial study." (PRC §21155(b)(2).) The SCEA is not required to discuss growth inducing impacts or any project specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network. (PRC § 21159.28(a).) After circulating the SCEA for public review and considering all comments, a lead agency may approve the SCEA with findings that all potentially significant impacts have been identified and mitigated to a less-than-significant level. (PRC § 21155(b)(3), (b)(4), (b)(5).)

A lead agency's approval of a SCEA must be supported by substantial evidence. (PRC §21155(b)(7).) A SCEA is reviewed under the substantial evidence standard, rather than the "fair argument" standard that is applied to negative declarations. PRC §21155.2(b); *Sacramentans for Fair Planning v City of Sacramento* (2019) 37 Cal.App.5th 698, 722 (applying substantial evidence to review of decision to use sustainable communities environmental assessment as well as content of such assessment).

DISCUSSION

I. The SCEA's Conclusions Regarding the Project's Air Quality Impacts Are Not Supported by Substantial Evidence.

Indoor air quality expert Francis "Bud" Offermann, PE, CIH, and air quality experts Matt Hagemann, P.G., C.Hg., and Paul E. Rosenfeld, Ph.D., of the Soil/Water/Air Protection Enterprise ("SWAPE") reviewed the SCEA and found that the SCEA's conclusions as to the Project's air quality impacts were not supported by substantial evidence. Mr. Offermann found that the SCEA failed to address and mitigate the human health impacts from indoor emissions of formaldehyde. Mr. Offermann's comment and CV are attached as Exhibit A. SWAPE found that the SCEA failed to properly model the Project's emissions and health risks and failed to properly apply the SCEA's proposed mitigation measures. SWAPE's comment and CVs are attached as Exhibit B.

a. The SCEA Cannot be Relied Upon to Determine the Significance of the Project's Air Quality Impacts Because the SCEA's Model Underestimated Project Emissions.

In concluding the Project need not undergo further CEQA review, the SCEA relies on emissions calculated from the California Emissions Estimator Model Version 2020.4.0 ("CalEEMod"). (Ex. B, p. 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. (*Id*). CEQA requires any changes to the default values to be justified by substantial evidence. (*Id*.)

As a preliminary matter, SWAPE reviewed the SCEA's CalEEMod output files and found that the values input into the model were inconsistent with information provided in the SCEA. (*Id.*, p. 2). Therefore, the SCEA's air quality analysis cannot be relied upon to determine the Project's emissions. Specifically, SWAPE found that the following values used in the

SCEA's air quality analysis were either inconsistent with information provided in the SCEA or otherwise unjustified because the SCEA incorrectly applied the Tier 4 Mitigation Measures.

SWAPE's updated modeling, using inputs that clearly reflects the Project, is completely different from those that the SCEA relies upon and indicates a potentially significant impact which was not addressed in the SCEA. Based on the issues listed above, the SCEA's analysis of air quality cannot be relied upon to determine the significance of impacts.

Therefore, the models which the SCEA relies on are unreliable document and must be updated and revised to better reflect and accurately model the Project's impacts.

b. The SCEA Fails to Present Substantial Evidence Showing that the Project Will Have a Less-Than-Significant Air Quality Impact.

Similarly, the SCEA fails as a reliable document because it relies on unsubstantiated changes to individual construction phase lengths and construction equipment unit amounts. SWAPE reviewed the SCEA CalEEMod output files – the underlying data files used to estimate a project's air emissions – and found that "several model inputs were not consistent with [the] information disclosed in the SCEA." (*Id*., p. 2) For instance, the CalEEMod output files included several unsubstantiated changes to off-road construction equipment unit amounts but fails "to provide a source for the Project's anticipated construction equipment list." (*Id*. p. 4)

Additionally, SWAPE found that the SCEA presented unsubstantiated changes to the estimated timeframe for completion of various phases of Project construction. (*Id*., p. 6.) "The construction schedule included in the model presents an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not for others," and how the SCEA "disproportionately alter[ed] and extend[ed] some of the individual construction phase lengths without proper justification." (*Id*., p. 3) This is notable because the CalEEMod User Guide expressly "requires any changes to model defaults to be justified." (*Id*.) SWAPE noted that while "the SCEA indicates the total construction duration, the SCEA fails to mention or justify the *individual* construction phase lengths." (*Id*.) In the absence of any justification, the SCEA "fails to provide substantial evidence to support the revised individual construction phase lengths." (*Id*.)

As SWAPE explains, "by disproportionately altering and extending some of the individual construction phase lengths without proper justification, the models assume there are a greater number of days to complete the construction activities required by the prolonged phases. As a result, there will be less construction activities required per day and, consequently, less pollutants emitted per day. Therefore, the model may underestimate the peak daily emissions associated with some phases of construction and should not be relied upon to determine Project significance." (*Id*.)

Such unsubstantiated change is clearly improper. An EIR must describe "the whole of an action" and cannot separate stages of a Project to obscure its true environmental impact. (14

CCR § 15378). "Improper piecemealing occurs 'when the purpose of the reviewed project is to be the first step toward future development' or 'when the reviewed project legally compels or practically presumes completion of another action.'" *East Sacramento Partnerships for a Livable City v. City of Sacramento* (2016) 5 Cal.App.5th 281, 293 (citing *Banning Ranch Conservancy v. City of Newport Beach* (2012) 211 Cal.App.4th 1209, 1223). "There is no dispute that CEQA forbids 'piecemeal' review of the significant environmental impacts of a project." *Berkeley Keep Jets Over the Bay Com. v. Bd. of Port Comrs.*, (2001) 91 Cal.App.4th at 1344, 1358 ("*Berkeley Jets*"). As such, the SCEA lacks substantial evidence to show that the Project will have a less than significant air quality impact.

In conclusion, SWAPE found that the SCEA's estimates of the Project's air quality impacts are not supported by substantial evidence and should therefore "not be relied upon to determine Project significance." (*Id*., p. 4). Therefore, the City must prepare a revised SCEA or conduct an initial study to accurately characterize the significance of the Project's impacts. Unless and until the City can present substantial evidence showing that the Project's impacts are less than significant, the use of a SCEA is improper. PRC §21155(b)(1)-(2).

II. Substantial Evidence Shows That the Project Will Likely Have Significant Adverse Indoor Air Quality and Health Impacts.

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, has reviewed the SCEA and all relevant documents regarding the Project's indoor air emissions. Based on this review, Mr. Offermann concludes that the Project will likely expose future residents living at the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is one of the world's leading experts on indoor air quality, particularly focusing on formaldehyde emissions, and has published extensively on the topic. Mr. Offermann found that the SCEA failed to address and mitigate the human health impacts from indoor emissions of formaldehyde.

a. Future Residents of the Project Will Face Elevated Cancer Risks from Indoor Formaldehyde Emissions.

Formaldehyde is a known human carcinogen and is listed by the State of California as a Toxic Air Contaminant ("TAC"). The South Coast Air Quality Management District ("SCAQMD"), the agency responsible for regulating air quality within the South Coast Air Basin—which includes the City of Los Angeles—has established a cancer risk significance threshold from human exposure to carcinogenic TACs of 10 per million. (Ex. A., p. 2) Here, Project's emissions of formaldehyde to air will result in very significant cancer risks to future residents of the Project.

Mr. Offermann states that future residents of the Project would be exposed to a 120 in one million risk, even assuming all materials are compliant with the California Air Resources Board's formaldehyde airborne toxics control measure. (*Id*. at 4) This potential exposure level exceeds the South Coast Air Quality Management District's ("SCAQMD") CEQA significance

threshold for airborne cancer risk by 12 times the amount.

The California Supreme Court has emphasized the importance of air district significance thresholds in providing substantial evidence of a significant adverse environmental impact under CEQA. (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 327 ["As the [South Coast Air Quality Management] District's established significance threshold for NOx is 55 pounds per day, these estimates [of NOx emissions of 201 to 456 pounds per day] constitute substantial evidence supporting a fair argument for a significant adverse impact."].) Since expert evidence demonstrates that the Project will exceed the SCAQMD's CEQA significance threshold, there is substantial evidence that an "unstudied, potentially significant environmental effect[]" exists. (See, *Friends of College of San Mateo Gardens v. San Mateo County Community College Dist.* (2016) 1 Cal.5th 937, 958.)

Mr. Offermann's observations constitute substantial evidence that the Project will produce potentially significant air quality and health impacts which the SCEA has failed to address. Therefore, the City must prepare an updated SCEA to fully evaluate and mitigate these impacts on the Project's future residents.

b. The SCEA fails to discuss and mitigate the Project's significant indoor air quality impacts.

The SCEA fails to discuss, disclose, analyze, and mitigate the significant health risks posed by the Project from formaldehyde, a toxic air contaminant. As discussed below and set forth in Mr. Offermann's comments, the Project's emissions of formaldehyde to air will result in very significant cancer risks to future residents of the Project's residential component and employees in the Project's commercial components. Mr. Offermann's expert opinion demonstrates the Project's significant health risk impacts, which the City has a duty to investigate, disclose, and mitigate in the SCEA prior to approval.

Mr. Offermann concludes that future residents of the Project would be exposed to a level of formaldehyde that exceeds the significance threshold under the South Coast Air Quality Management District ("SCAQMD"). This potential exposure level exceeds SCAQMD's CEQA significance threshold for airborne cancer risk of 10 per million. (*Id*., p. 2) 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." (*Id*, p. 2-3)

As described in more detail below, Mr. Offermann proposes feasible mitigation measures to reduce the Project's indoor air quality impacts. But since the SCEA does not analyze this impact at all, none of these or other mitigation measures have been considered.

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").

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.'" *California Bldg Indus. Ass'n v. Bay Area Air Quality Mgmt. Dist.*, (2015) 62 Cal.4th 369, 384 ("*CBIA'*). 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 workers is as important to CEQA's safeguards as that of nearby residents currently living near the project site.

The proposed buildings will have significant impacts on air quality and health risks by emitting cancer-causing levels of formaldehyde into the air that will expose future residents and employees to cancer risks potentially in excess of SCAQMD's threshold of significance for cancer health risks of 10 in a million. Currently, outside of Mr. Offermann's comments, the City does not have any idea what risks will be posed by formaldehyde emissions from the Project or the residences. As a result, the City must include an analysis and discussion in an updated SCEA which discloses and analyzes the health risks that the Project's formaldehyde emissions may have on future residents and employees and identifies appropriate mitigation measures.

c. The SCEA fails to analyze the Project's significant outdoor air quality impacts.

Given the Project site's location, the SCEA fails to adequately review and analyze the additional impacts of motor vehicle traffic and the subsequent increase in exposure to particulate matter ("PM2.5"). As the SCEA notes and Mr. Offermann highlights, the Project site is within the South Coast Air Basin, a state and federal non-attainment area for PM2.5, and in an area with moderate to high traffic. (*Id*., p. 2) "Additionally, the SCAQMD's Multiple Air Toxics Exposure Study (MATES V) study cites an existing cancer risk of 503 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic." (*Id*., p. 4)

Mr. Offermann predicts that the projected traffic noise levels, the annual average PM.25 concentrations will exceed both state and federal standards, thereby necessitating installation of

technology to reduce the impacts to a less-than-significant level. However, the SCEA fails to analyze these issues, as well as the cumulative impacts associated with the Project's emissions. As such, the City should not proceed with any Project approvals and to instead prepare and recirculate an updated SCEA that adequately analyzes and addresses these impacts.

III. The SCEA Violates CEQA Because it Fails to Implement All Feasible Mitigation Measures from the 2020 Connect SoCal Program EIR.

CEQA is clear that a SCEA is only appropriate where "all feasible mitigation measures, performance standards, or criteria set forth in the prior applicable environmental impact reports and adopted in findings made pursuant to Section 21081" are applied to the Project. PRC § 21155.2. In 2020, the South California Association of Governments' ("SCAG") Regional Council formally adopted the Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy ("2020 RTP/SCS"), and the California Air Resources Board accepted it on October 30, 2020. SCAG then adopted the Connect SoCal Program EIR ("2020 PEIR" or "PEIR") for the 2020 RTP/SCS. The 2020 PEIR included a Mitigation Monitoring and Reporting Program ("MMRP") which details regional mitigation measures to be implemented by SCAG and Project-level mitigation measures to be implemented by lead agencies for individual projects (such as the Project at issue here).

Importantly, the MMRP explicitly states that, "for projects seeking to use CEQA streamlining and/or tier from the Connect SoCal Program EIR, project-level mitigation measures included in this Program EIR (or comparable measures) **should be required by the local lead agency as appropriate and feasible**." (emph. added.) Despite the clear directives under CEQA and the Connect SoCal Program EIR that all feasible mitigation measures included in the PEIR must be implemented for a Project to qualify for a SCEA, numerous Project-level mitigation measures from the 2020 PEIR are not included in the SCEA for this Project (p. 4-1).

Among the mitigation measures that the 2020 PEIR requires, the following reflects measures that the SCEA fails to adopt:

- Aesthetics:
    - PMM AES-1: Using graffiti-resistant materials, see-through barrier designs (e.g., railings rather than walls) (SCEA, pp. 4-2 to 4-3);
    - PMM AES-2: Requiring sound-wall construction and design methods, designing sounds to walls to increase visual interest (*Id.*, pp. 4-3 to 4-5);
    - PMM AES-3: Using non-reflective glass and screening methods from light-sensitive areas (*Id.*, pp. 4-5 to 4-6);
- Air Quality:
    - PMM AQ-1: Using Tier 4 construction equipment, consulting SCAG's EJ toolbox, installing and monitoring filtration systems, and other related measures (*Id.*, pp. 4-10 to 4-17);

- Biological Resources:
    - PMM BIO-1: Protecting habitat for migratory bird species (*Id.*, pp. 4-17 to 4-20);
    - PMM BIO-2: Consulting with local, state, and federal agencies (*Id.*, pp. 4-20 to 4-23);
- Greenhouse Gas:
    - PMM GHG-1: Implementing mitigation measures that reduce GHG impacts, such as using energy conservation and efficient materials (*Id.*, pp. 4-47 to 4-52);
- Hydrology and Water Quality:
    - PMM HYD-1: Implementing a Stormwater Pollution Prevention Plan ("SWPPP") (*Id*., pp. 4-63 to 4-65);
- Noise:
    - PMM NOI-2: Outfitting construction equipment (*Id*., pp. 4-76 to 4-77);
- Transportation:
    - PMM TRA-1: Incorporating Transportation Demand Management ("TDM") strategies (*Id*., pp. 4-83 to 4-85); and
- Solid Waste:
    - PMM-USSW-2: Incorporating waste management plans (*Id*., pp. 492 to 4-95)

For example, for mitigation measures related to reducing air quality impacts, the 2020 PEIR requires all projects "to use Tier 4 Final equipment or better for all engines above 50 horsepower (hp)." (SCEA, p. 4-13) However, SWAPE explains how the SCEA incorrectly "assum[ed] that the Project's off-road construction equipment fleet would meet Tier 4 final emissions standards [but] remains unsupported as the SCEA fails to explicitly require these standards through formal mitigation measures." (Ex. B, p. 5)

Additionally, the SCEA concludes that the Project would not have the potential to exceed any significance thresholds and therefore would not lead to any violations. In its justification, the SCEA asserts that it has actively not adopted the 2020 PEIR's required mitigation measures because other policies that are equal to or consistent with the PEIR's mitigation measures, thereby making the 2020 PEIR's mitigation measures no longer applicable. However, this assertion, in part, is incorrect because, as explained by SWAPE and Mr. Offermann's expert analyses above, the SCEA's conclusions, which are based on incorrect information and data, make the SCEA incomplete and unreliable. This means that it is unclear whether the Project will exceed any significance thresholds. And even if the purported policies are included according to the Project's implementation guidelines, the SCEA still fails at proving with substantial evidence that the Project will reduce its impacts to a less-than-significant level.

As such, the SCEA fails to implement a broad suite of feasible mitigation measures

included in the PEIR which would further reduce the Project's impacts. The Project thus fundamentally misconstrues the requirements of a SCEA by failing to require implementation of all feasible mitigation measures which were included in the 2020 PEIR.

a. The Project Must Implement All Feasible Mitigation Measures to Reduce the Project's Significant Air Quality Impacts.

CEQA requires public agencies to avoid or reduce adverse environmental impacts when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (14 CCR § 15002(a)(2) and (3); *see also*, *Berkeley Jets*, 91 Cal.App.4th 1354, 1354; *Citizens of Goleta Valley v. Bd. of Supr's*, 52 Cal.3d 562, 564. SWAPE and Mr. Offermann propose a comprehensive list of additional mitigation measures and analyses that may be feasibly implemented to reduce the Project's significant air quality and human health impacts. For example, Mr. Offermann concludes that mitigation measures should be imposed to reduce the risk of formaldehyde exposure. (*Id*. at 5-6) Mr. Offermann identifies mitigation measures that are available to reduce these significant health risks, including the following:

- Install air filters that efficiently remove PM 2.5;
- Require the Applicant to 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; and
- Provide each room with a 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;

(*Id*., p. 12-13)

The SCEA fails to incorporate all the required feasible mitigation measures based on its incorrect assertion that the Project's air quality impacts will be less-than-significant. This assertion is not supported by substantial evidence and does not withstand scrutiny. But even if taken at face value, the statement is misguided. This is because CEQA requires SCEA projects to implement "all feasible mitigation measures, performance standards, or criteria set forth in the prior applicable environmental impact reports," regardless of project-level significance determinations. PRC § 21155.2.

Therefore, in order to qualify for a SCEA, the City must revise the Project documents to include all feasible mitigation measures from the 2020 PEIR. In doing so, the City must also adopt all feasible mitigation measures related to reducing the indoor air quality impacts as noted by SWAPE and Mr. Offermann to a less-than-significant level. Unless and until the City takes this essential step to comply with CEQA, the Project is not eligible for a SCEA.

CONCLUSION

The SCEA is improper because it lacks substantial evidence to support its conclusions that the Project will have less than significant air quality impacts. The SCEA additionally fails to comply with CEQA because it fails to incorporate "all feasible mitigation measures, performance standards, or criteria set forth in the prior applicable environmental impact reports," namely, the 2020 Connect SoCal Program EIR. Therefore, SAFER respectfully requests the City to revise the SCEA to comply with CEQA, which includes analyzing and implementing feasible mitigation measures to reduce significant impacts not identified in the SCEA. Thank you for considering these comments.

Sincerely,

Marjan Abubo
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EXHIBIT A

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Date: August 20, 2023

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From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: 4112 Del Ray Avenue Project, Los Angeles, CA
(IEE File Reference: P-4739)

Pages: 19

Indoor Air Quality Impacts

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.

Indoor Formaldehyde Concentrations Impact. 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 µg/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 µg/m^3. The median indoor formaldehyde concentration was 36 µg/m^3, and ranged from 4.8 to 136 µg/m^3, which corresponds to a median exceedance of the 2 µg/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 µg/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 µg/m^3 to 28% for the Acute REL of 55 µg/m^3.

The 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.

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.

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 4112 Del Rey Avenue Project, Los Angeles, CA, the buildings consist of residential 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).

In addition, we note that the average outdoor air concentration of formaldehyde in California is 3 ppb, or 3.7 $\mu g/m^3$, (California Air Resources Board, 2004), and thus represents an average pre-existing background airborne cancer risk of 1.85 per million. Thus, the indoor air formaldehyde exposures describe above exacerbate this pre-existing risk resulting from outdoor air formaldehyde exposures.

Additionally, the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V") identifies an existing cancer risk at the Project site of 503 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels

of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air.

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.

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.

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).

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., $\mu g/m^2$-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 $\mu g/m^2$-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 $\mu g/m^2$-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.

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.

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.

(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 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.

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.

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.

According to the Sustainable Communities Environmental Assessment - 4112 Del Rey Avenue Project, Los Angeles (ESA, 2023), the Project is close to roads with moderate to high traffic (e.g., Del Ray Avenue, Lincoln Boulevard, West Washington Boulevard, Glencoe Avenue, etc.).

The Sustainable Communities Environmental Assessment - 4112 Del Rey Avenue Project, Los Angeles (ESA, 2023), states in Table 5-23 that the modeled future traffic ambient noise levels with the Project range from 56.9 to 74.6 dBA CNEL .

In order to design the building for this Project such that interior noise levels are acceptable, an acoustic study with actual on-site measurements of the existing ambient noise levels and modeled future ambient noise levels needs to be conducted. The acoustic study of the existing ambient noise levels should be conducted over a one-week period. and report the dBA CNEL or Ldn. This study will allow for the selection of a building envelope and windows with a sufficient STC such that the indoor noise levels are acceptable. A mechanical supply of outdoor air ventilation to allow for a habitable interior environment with closed windows and doors will also be requires. 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 Sustainable Communities Environmental Assessment - 4112 Del Rey Avenue Project, Los Angeles (ESA, 2023), the Project is located in the South Coast Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

Additionally, the SCAQMD's MATES V study cites an existing cancer risk of 503 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic.

An air quality analyses should 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 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.

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.

Outdoor Air Ventilation Mitigation. Provide each 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.

$PM_{2.5}$ Outdoor Air Concentration Mitigation. 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.

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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 $\mu g/m^3$ (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.

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 ft^2), 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, 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 rate 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

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.

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.

EXHIBIT B

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

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August 24, 2023

Marjan Abubo
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94618

Subject: Comments on the 4112 Del Rey Mixed-Use Project (Case No. ENV-2022-9017-SCEA)

Dear Mr. Abubo,

We have reviewed the July 2023 Sustainable Communities Environmental Assessment ("SCEA") for the 4112 Del Rey Mixed-Use Project ("Project") located in the City of Los Angeles ("City"). The Project proposes to construct 210 residential units and 282 vehicular parking spaces on the 2.83-acre site.

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

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The SCEA's air quality analysis relies on emissions calculated with California Emissions Estimator Model ("CalEEMod") Version 2020.4.0 (p. 5-27, 5-28).[1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated,

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

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

When reviewing the Project’s CalEEMod output files, provided in the Air Quality Modeling (“AQ Report”) and the Greenhouse Gas Emissions Modeling (“GHG Report”) as Appendix A and G to the SCEA, respectively, we found that several model inputs are not consistent with information disclosed in the SCEA. As a result, the Project’s construction and operational emissions may be underestimated. An EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that operation of the Project will have on local and regional air quality.

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the “LaTerra Del Rey” model includes several changes to the default individual construction phase lengths (see excerpt below) (Appendix A, pp. 31, 61; Appendix G, pp. 25).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	6.00	66.00
tblConstructionPhase	NumDays	220.00	63.00
tblConstructionPhase	NumDays	220.00	305.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	10.00	65.00

As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix A, pp. 36, 66; Appendix G, pp. 30).

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	9/1/2024	10/31/2024	5	44
2	Grading/Excavation	Grading	11/1/2024	1/31/2025	5	66
3	Mat Foundation	Building Construction	2/1/2025	4/30/2025	5	63
4	Building Construction	Building Construction	6/1/2025	7/31/2026	5	305
5	Paving	Paving	5/1/2025	5/31/2025	5	22
6	Architectural Coating	Architectural Coating	8/1/2026	10/31/2026	5	65

As demonstrated above, the demolition phase is increased by 110%, from the default value of 20 to 44 days; the “Grading/Excavation” coating phase is increased by 1,000%, from the default value of 6 to 66 days; the “Mat Foundation” phase is decreased by 98%, from the default value of 220 to 63 days; the building construction phase is increased by 39%, from the default value of 220 to 305 days; the paving phase is increased by 120%, from the default value of 10 to 22 days; and the architectural coating phase is increased by 550%, from the default value of 10 to 65 days. As previously mentioned, the CalEEMod

User's Guide requires any changes to model defaults be justified.[2] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is:

> "Project construction schedule supplied by Applicant" (Appendix A, pp. 29, 59; Appendix G, pp. 23).

Regarding construction activities, the SCEA states:

> "Construction of the Project would commence as early as September 2024. Construction would be completed as early as August 2026" (p. 2-16).

However, the changes to the individual construction phase lengths remain unsubstantiated. While the SCEA states that the total length of Project construction would be 24 months, the SCEA fails to substantiate the individual construction phase lengths. Until the above-mentioned construction schedule is provided, the model should have included proportionately altered individual phase lengths to match the proposed construction duration of 24 months.

The construction schedule included in the model presents an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not for others. According to the CalEEMod User's Guide, each construction phase is associated with different emissions activities (see excerpt below).[3]

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

By disproportionately altering and extending some of the individual construction phase lengths without proper justification, the model assumes there are a greater number of days to complete the construction activities required by the prolonged phases. As a result, there will be less construction activities required per day and, consequently, less pollutants emitted per day. Until we are able to verify the revised construction schedule, the model may underestimate the peak daily emissions associated with some phases of construction and should not be relied upon to determine Project significance.

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[2] "CalEEMod User's Guide Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[3] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 32.

Unsubstantiated Reductions to Off-Road Construction Equipment Unit Amounts

Review of the CalEEMod output files demonstrates that the "LaTerra Del Rey" model includes several changes to the off-road construction equipment unit amounts (see excerpt below) (Appendix A, pp. 32, 62; Appendix G, pp. 26).

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[4] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is:

> "With PDF AIR-1" (Appendix A, pp. 29, 59; Appendix G, pp. 23).

However, these justifications are insufficient, as the SCEA fails to mention or provide a source for the Project's anticipated construction equipment list. As previously discussed, according to the CalEEMod User's Guide:

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

As such, until SCEA and associated documents provide additional information that substantiates the revised construction equipment list, we are unable to verify the changes.

These unsubstantiated changes present an issue, as CalEEMod uses the off-road construction equipment input parameters to calculate the emissions associated with off-road construction equipment.[6] By

[4] "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. 2, 9

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

[6] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 33, 34.

including unsubstantiated changes to the default off-road construction equipment unit amounts the model may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Incorrect Application of Tier 4 Final Mitigation

Review of the CalEEMod output files demonstrates that the "LaTerra Del Rey" model includes the following construction-related mitigation measures (see excerpt below) (Appendix A, pp. 38, 68; Appendix G, pp. 32).

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

As a result, the model assumes that the Project's off-road construction equipment fleet would meet Tier 4 final emissions standards (see excerpt below) (Appendix A, pp. 30, 31, 60, 61; Appendix G, pp. 24, 25).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

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:

> "With SCAQMD Rule 403 compliance (watering x3 daily). With PDF AIR-1." (Appendix A, pp. 30, 60; Appendix G, pp. 24).

However, the assumption that the Project's off-road construction equipment fleet would meet Tier 4 final emissions standards remains unsupported as the SCEA fails to explicitly require these standards through formal mitigation measures. This is incorrect, as according to the Association of Environmental Professionals ("AEP") *CEQA Portal Topic Paper* on mitigation measures:

[7] "CalEEMod User's Guide Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.

> "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."[8]

As demonstrated in the excerpt above, measures that are not formally included in the mitigation monitoring and reporting program ("MMRP") may be eliminated from the Project's design altogether. As the use of construction equipment with Tier 4 final emissions standards are not formally included as mitigation measures, we cannot guarantee that these standards would be implemented, monitored, and enforced on the Project site. Consequently, the model's assumption that the off-road construction equipment fleet would adhere to Tier 4 final emissions standards is incorrect.

Disclaimer

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

Sincerely,

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

Paul E. Rosenfeld, Ph.D.

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

Attachment A: Matt Hagemann CV
Attachment B: Paul Rosenfeld CV

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

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

Education:

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

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

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

Positions Matt has held include:

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

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

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

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

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

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

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

Executive Director:

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

Hydrogeology:

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

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

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

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

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

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

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

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

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

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

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

Policy:

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

Activities included the following:

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

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

Geology:

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

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

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

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

Teaching:

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

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

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

Invited Testimony, Reports, Papers and Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Other Experience:

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

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

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

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

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

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

Professional Experience

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

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

Professional History:

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

Publications:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Teaching Experience:

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

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

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

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

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

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

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

Academic Grants Awarded:

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

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

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

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

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

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

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

Deposition and/or Trial Testimony:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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