

Rubio Village Mixed-Use Project

State Clearinghouse No. 2023080591

Responses to Comments Raised During Public Review

October 2023

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1.0 Introduction

The Project's Initial Study/Mitigated Negative Declaration (IS/MND) was prepared pursuant to California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Sections 21000-21177) and CEQA Guidelines Section 15063 requirements.

The IS/MND and supporting documentation were made available for public review pursuant to CEQA Guidelines Section 15070. The public review period began on August 24, 2023 and ended on September 22, 2023. The IS/MND and supporting documentation were made available for public review at the following locations:

- San Gabriel City Hall, 425 South Mission Drive, San Gabriel, California 91776
- San Gabriel Library, 500 South Del Mar Avenue, San Gabriel, California 91176
- City's Website at <https://www.sangabrielcity.com/731/Current-Projects-Programs>

The comment letters received during the public review period are listed below and provided in **Appendix A: Comment Letters**.

- 1) Comment Letter 1: Gabrieleno Band of Mission Indians – Kizh Nation
- 2) Comment Letter 2: Supporters Alliance for Environmental Responsibility
- 3) Comment Letter 3: California Department of Transportation

Although CEQA and the CEQA Guidelines do not require a Lead Agency to prepare responses to comments raised regarding an IS/MND, as contrasted with the requirement to prepare responses to comments on a Draft Environmental Impact Report (CEQA Guidelines Section 15088), the City of San Gabriel has elected to prepare the following written responses in the spirit and with the intent of conducting a comprehensive and meaningful evaluation of the proposed Project. The number designations in the responses correlate with the comment letters.

2.0 Responses to Comments

Responses to Comment 1

Gabrieleno Band of Mission Indians – Kizh Nation
Brandy Salas, Admin Specialist
P.O. Box 393
Covina, CA 9173
Received on August 29, 2023

Response to Comment 1-1

The commenter states that they are in disagreement with the mitigation measures included in the Public Review IS/MND as it relates to tribal cultural resources. The commenter provides mitigation measures to retain a Native American monitor prior to commencement of ground-disturbing activities; to address unanticipated discovery of tribal cultural resource objects (non-funerary/non-ceremonial); and to address unanticipated discovery of human remains and associated funerary or ceremonial objects.

Page 92 of the Public Review IS/MND details the consultation process pursuant to Assembly Bill (AB) 52. As described therein, the City initiated consultation with the Gabrieleño Band of Mission Indians – Kizh Nation (the commenter) on June 23, 2023. Based on this comment, Mitigation Measure **MM TCR-1** is revised as follows and as reflected in **Section 3.0: Errata to the IS/MND** and in the Mitigation Monitoring and Reporting Program.

MM TCR-1 The Project shall retain a professional Native American monitor from or approved by a consulting Tribe. ~~The monitor shall be present during construction excavations such as clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project. The monitor shall be retained prior to the commencement of any “ground-disturbing activity” for the subject property at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). “Ground-disturbing activity” shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching. A copy of the executed monitoring agreement shall be submitted to the Lead Agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.~~

The Native American monitor shall complete daily monitoring logs to provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the consulting Tribe. Monitor logs shall identify and describe any discovered tribal cultural resources and discovered Native American (ancestral)

human remains and burial goods. Copies of the monitor logs shall be provided to the Project Applicant/Lead Agency upon written request to the consulting Tribe.

If cultural resources are encountered, the Native American monitor will have the authority to request ground disturbing activities cease within 50-feet of discovery to assess and document potential finds in real time. Construction activities within 50-feet of discovery shall not resume until the discovery has been assessed by the Native American monitor. ~~Monitoring activities will cease when potential for significant buried resources have been exhausted (e.g., at the completion of construction excavation activity), as determined by the Qualified Archaeologist and in consultation with the Native American monitor shall conclude upon the latter of the following (1) written confirmation to the consulting Tribe from a designated point of contact for the Project Applicant/Lead Agency that all ground-disturbing activities and phases associated with the Project are complete; or (2) a determination or written notification by the consulting Tribe to the Project Applicant/Lead Agency that no future, planned construction activity and/or development/construction phase at the Project Site possesses the potential to impact tribal cultural resources.~~ The Native American monitor and archaeological monitor will be present during construction excavation activity. Personnel needs would be determined during a pre-construction meeting.

Response to Comment 1-2

The remainder of the comment letter provides communication between the commenter and the City. The revisions are addressed in Response to Comment 1-1 above. As this comment does not raise any specific issues with respect to the content and adequacy of the Public Review IS/MND, no further response is warranted.

Responses to Comment 2

Lozeau Drury LLP
Marjan R. Abubo
1939 Harrison Street, Suite 150
Oakland, CA 94612
Received on September 22, 2023

Response to Comment 2-1

This comment is an introduction to commenter, representing the Supporters Alliance for Environmental Responsibility (SAFER), and provides an introduction to the remainder of the comment letter. As this comment does not raise any specific issues with respect to the content and adequacy of the Public Review IS/MND, no further response is warranted.

Response to Comment 2-2

This comment provides a description of the Project, as reflected in **Section 2.0: Project Description** of the Public Review IS/MND. As this comment does not raise any specific issues with respect to the content and adequacy of the Public Review IS/MND, no further response is warranted.

Response to Comment 2-3

This comment provides background information concerning CEQA, preparation of an Environmental Impact Report (EIR), and preparation of an MND. As this comment does not raise any specific issues with respect to the content and adequacy of the Public Review IS/MND, no further response is warranted.

Response to Comment 2-4

This comment asserts that an EIR is required because the Project will have significant biological impacts, supported by Dr. Shawn Smallwood, Ph.D.'s comments provided in Exhibit A of the Comment Letter. Responses to the comments related to biological resources are provided below in Response to Comments 2-5 through 2-11 below. As this comment does not raise any specific issues with respect to the content and adequacy of the Public Review IS/MND, no further response is warranted.

Response to Comment 2-5

This comment asserts that the IS/MND did not properly characterize the existing environmental setting as it relates to the potential for the Project Site to provide habitat for special-status species. The commenter further states that 18 species of vertebrate wildlife were observed at and near the Project Site, 3 of which have special status. The 3 species that are noted to have special status are not considered federally or State-listed, nor are the species listed as having critical habitat. Therefore, no candidate, sensitive, or special-status species would be impacted by the Project. Further, the potential for a special-status wildlife species to occur on the Project Site depends on suitable habitat types and variability, habitat connectivity, and general

disturbance in the area. As detailed on pages 33 and 34 of the Public Review IS/MND, the Project Site is currently a vacant dirt lot with low-lying shrubs, weeds, and non-native grasslands scattered throughout the Project Site. The Project Site contains minimal habitat value for the special-status wildlife species that the commenter asserts could inhabit the Project Site. As further stated in the comment, 13 of the species that were observed are protected by the federal Migratory Bird Treaty Act (MBTA) and California's Migratory Bird Protection Act.

Regarding Dr. Smallwood's project models, a species' use of a site is dependent on multiple factors (e.g., habitat types and variability, habitat connectivity, site size, disturbance factors, etc.); thus, detecting a species should not be exclusively based on the length of the survey. Additionally, the modeling does not disclose the presence of candidate, sensitive, or special-status species from the projections. The modeling further describes analysis based on annual grasslands of the Altamont Pass, which is in northern California, and is not similar to the Project Site. Therefore, the modeling results and projections asserted are not applicable to the Project Site.

As detailed on pages 33 and 34 of the Public Review IS/MND, the Project Site is currently a vacant dirt lot with low-lying shrubs, weeds, and non-native grasslands scattered throughout the Project Site. As further stated therein, the mature trees located on the Project Site could provide nesting habitat for migratory birds. The Project would be required to comply with the MBTA and California Fish and Game Code (CFGF) to protect migratory birds. The CFGF extends protection to non-migratory birds identified as resident game birds (CFGF Section 3500) and any birds in the orders *Falconiformes* or *Strigiformes* (birds-of-prey) (CFGF Section 3503). The IS/MND establishes **Mitigation Measure MM BIO-1** which addresses minimizing potential impacts from construction activities during the nesting season. Following compliance with the relevant regulatory framework (CFGF and MBTA) and **MM BIO-1**, the Project's potential impacts to nesting migratory birds would be reduced to less than significant. Therefore, the Public Review IS/MND adequately addresses the existing environmental baseline and setting of the Project Site, the potential for special-status species (migratory and non-migratory) to exist on the Project Site, and the implementation of **MM BIO-1** to reduce those potential impacts to less than significant levels.

Response to Comment 2-6

This comment asserts that the Project would have an adverse impact on special-status species through the direct loss of habitats because the Project Site supports 42 bird nests. As indicated in **MM BIO-1**, if construction cannot be conducted outside the nesting season (i.e., typically March 15 through September 1), a pre-construction nesting bird survey within and adjacent to the Project Site shall be conducted. If active nests are found, a Nesting Bird Plan shall be prepared, which includes guidelines for addressing active nests, establishing buffers, monitoring, and reporting. As stated in Response to Comment 2-5, the implementation of **MM BIO-1** would reduce impacts to nesting birds to less than significant levels.

Response to Comment 2-7

This comment asserts that the Project would adversely impact wildlife movement. As stated on page 33 of the Public Review IS/MND, the Project Site was previously developed, and prior uses

were demolished. The Project Site is surrounded on all sides by existing urban uses, and no areas within the Project vicinity could function as a wildlife corridor or nursery site for native and migratory wildlife. The Rubio Wash would remain, and 106 trees would be planted on the ground floor, all of which could still serve as an opportunity for wildlife to utilize the Project Site as a stopover site. As this comment does not provide any evidence as to how the Project would cut wildlife off from a stopover, no additional analysis is necessary based on this comment.

Response to Comment 2-8

This comment states that the IS/MND did not analyze the Project's impacts due to bird-window collisions. Dr. Smallwood predicts 475 annual bird deaths due to the Project. The studies that were considered in the comment that led to the commenter's predictions are based on multiple sources across the United States, the majority of which are in environments and settings that are not representative of an urban environment like the Project Site, where there is less likelihood for special-status avian species to be present. Summarizing data from multiple articles without taking into account the lack of avian observations, and the preexisting urbanized landscape does not conclusively yield an accurate average collision rate. Therefore, the comment does not contain substantial evidence to support its claims. No additional analysis is necessary based on this comment.

Response to Comment 2-9

This comment states that the IS/MND did not analyze the Project's impacts related to wildlife traffic fatalities. The comment further extrapolates a rate of fatalities per vehicle miles traveled (VMT) based on studies conducted on a rural, undeveloped stretch of roadway in northern California (Vasco Road) and traffic-caused wildlife mortality studies from Contra Costa County. The Project is an urban infill development that will not develop any new arterial roadways. The commenter's estimate of the Project resulting in 610 wildlife fatalities per year is misleading and speculative as the conditions that the ratio is based on are not applicable to the Project. The comment does not provide credible evidence supporting a fair argument that the Project would result in these impacts on wildlife. No additional analysis is necessary based on this comment.

Response to Comment 2-10

This comment proposes mitigation measures that could reduce the above-listed impacts. As discussed in the above responses, the Project would not result in potentially significant impacts to biological resources. No additional analysis and mitigation measures are necessary.

Response to Comment 2-11

This comment asserts that an EIR is required because the Project will have significant air quality impacts, supported by SWAPE's comments provided in Exhibit B of the Comment Letter. It should be noted that the commenter refers to "District at Rubidoux – Phase 1", which is not this Project.

The commenter's first assertion is that the Public Review IS/MND failed to provide complete CalEEMod output files. As noted by the commenter in Exhibit B, CalEEMod Version 2022.1, which

was utilized for the Project, does not provide a table that details the user-initiated changes to default data compared to the previous CalEEMod version (2020.4.0) which shows specific numeric changes to the model's default values. The changes to the default values are based on Project-specific information provided by the Applicant. All CalEEMod files were provided in the Public Review IS/MND, and no outputs were omitted. With the most recent CalEEMod version available, using an outdated version as suggested would not provide the best output to estimate the Project's emissions. No additional response is warranted.

The commenter's second assertion is that the Public Review IS/MND included unsubstantiated changes to individual construction phase lengths. The commenter's fifth assertion is that the Public Review IS/MND included unsubstantiated changes to construction equipment values. It is standard practice to adjust the default values in CalEEMod for Project-specific information. The changes that were made to the construction schedule are based on Project-specific information provided by the Applicant. The commenter's third assertion is that the Public Review IS/MND included unsubstantiated reduction to gas fireplaces. The Project would not include gas-powered fireplaces, and those were adjusted in the modeling.

The commenter's fourth assertion is that the Public Review IS/MND included underestimated operational vehicle trips. The commenter notes that the Traffic Impact Study states that the Project is expected to generate 1,442 daily vehicle trips, and the Air Quality Technical Memorandum states that the Project would generate 1,226 weekday, Saturday, and Sunday total daily vehicle trips. The trip generation provided in the Traffic Impact Study (1,442) did not account for the pass by reduction for fast casual restaurant of 215 trips. As shown in Table 4.17-1: Project Trip Generation on page 89 and 90 of the Public Review IS/MND, the daily trips have been adjusted to calculate for the correct 1,227 daily trips.¹ Therefore, the trips that were utilized for CalEEMod are accurate and are not underestimated.

Therefore, the Project's construction and operational emissions modeling provided in the Public Review IS/MND does not underestimate emissions. As a result, the Public Review IS/MND adequately evaluates the impacts that construction and operation of the Project would have on local and regional air quality. No additional analysis is warranted.

Response to Comment 2-12

The comment asserts that the Public Review IS/MND failed to adequately evaluate health risks from diesel particulate matter (DPM) emissions and that the Project may have an adverse impact on human health caused by those emissions.

The South Coast Air Quality Management District (SCAQMD) has not adopted guidance that requires quantitative health risk assessments (HRAs) be performed for short-term exposures to toxic air contaminant (TAC) emissions. Specifically, the SCAQMD states that "SCAQMD currently

¹ The totals for the number of weekday, Saturday, and Sunday trips are rounded. Due to rounding, the total trips do not add up to 1,227 trips. However, the difference of one trip does not affect the total operational emissions calculated in the Air Quality Technical Memorandum.

does not have guidance on construction Health Risk Assessments.”² Health effects from TACs for sensitive residential receptors are described in terms of individual cancer risk based on a long-term resident exposure duration (i.e., 30-year).

The SCAQMD has published and adopted the *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, which provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). The Project would not include any of these uses; therefore, an operational health risk assessment is neither required nor warranted. No additional analysis is warranted.

Response to Comment 2-13

The comment asserts that the Project would have a significant health risk impact from indoor air quality emissions. However, the commenter provides no credible evidence that the Project will be constructed with building materials with significant amounts of formaldehyde, citing only an unsubstantiated, general memorandum from Francis Offermann provided as Exhibit C of the comment letter.

There are no requirements or guidance from the SCAQMD or relevant agencies to evaluate such risk. The Project does not represent a unique or special development that needs addressing in CEQA, therefore no special analysis or mitigation is required. The Project will comply with the existing codes and regulations in California, which adequately address potential emissions and risks from building materials to ensure safe practices and healthy indoor air. These codes include, but are not limited to:

- **Title 24:** The Building Energy Efficiency Standards (Energy Standards) already address the “energy and water efficiency requirements (and indoor air quality requirements) for newly constructed buildings, and alterations to existing buildings.” The Standards are applicable to Mechanical Systems whose one of the primary functions is “indoor air quality for occupant comfort and health”. These Standards address ventilation, indoor air quality, and air filtration requirements (including the use of high efficiency filters), the checks and balances and need to be performed, and the acceptance test requirements. One of the General Envelope Requirements is that manufacturers must certify that insulating materials comply with the California Quality Standards for Insulating Materials to assure that “insulation sold or installed in the state performs according to the stated

² South Coast Air Quality Management District, Final Environmental Assessment for: Proposed Amended Rule 307.1 – Alternative Fees for Air Toxics Emissions Inventory; Proposed Amended Rule 1401 – New Source Review of Toxic Air Contaminants; Proposed Amended Rule 1402 – Control of Toxic Air Contaminants from Existing Sources; SCAQMD Public Notification Procedures for Facilities Under the Air Toxics “Hot Spots” Information and Assessment Act (AB 2588) and Rule 1402; and, SCAQMD Guidelines for Participating in the Rule 1402 Voluntary Risk, page 2-23, September 2016, http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/final-ea_par-307-1_1401_1402.pdf?sfvrsn=4. Accessed September 29, 2023. The SCAQMD only applies the revised OEHHA Guidelines for operational impacts at stationary industrial source facilities that are in the AB 2588 Air Toxics Hot Spots program, which does not apply to the proposed Project.

R-value and meets minimum quality, health, and safety standards.”

- **CALGreen:** The California Green Building Standards Code (CALGreen Code), applicable to new commercial and industrial buildings, is designed to promote “environmentally responsible, cost-effective, healthier places to live and work”. “CALGreen includes both required measures and voluntary measures, a number of which help assure healthful indoor air quality, such as those addressing chemical emissions from composite wood products, carpets, resilient flooring materials, paints, adhesives, sealants, and insulation, and also ventilation.”

Section 4.5, Environmental Quality, of the CALGreen Code provides mandatory residential measures to reduce the quantity of air contaminants that are odorous, irritating and/or harmful to the comfort and wellbeing of a building’s installers, occupants and neighbors. It includes volatile organic compounds (VOC) limits for paints, coatings, adhesives, adhesive bonding primers, sealants, sealant primers, and caulk. Section 4.504.3, Carpet Systems, of the CALGreen Code establishes product requirements to meet one of the following: (1) Carpet and Rug Institute’s Green Label Plus Program; (2) California Department of Public Health, “Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers,” Version 1.1; (3) NSF/ANSI 140 at the Gold Level; or (4) Scientific Certifications Systems Indoor Advantage Gold. Furthermore, Section 4.504.5, Composite Wood Products, of the CALGreen Code establishes limits for formaldehyde as specified in ARBS’s Air Toxics Control Measure for Composite Wood (e.g., particle board). These measures have been established through the CALGreen Code and are designed to reduce the quantity of air contaminants to acceptable levels.

- **California Air Resources Board (CARB) ATCM (Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products):** 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. The composite wood products covered by this regulation are hardwood plywood, particleboard, and medium density fiberboard.” The measure applies to manufacturers, distributors, importers, fabricators (that use such materials to make other goods), retailers, third party certifiers who manufacture, offer for sale or supply these goods in California. The control measure assures that all building materials and furnishings manufactured, distributed, imported and used in new construction in California meet the maximum allowable concentrations that assure healthful indoor air quality.

According to CARB, from a public health standpoint, the Composite Wood Products (CWP) Regulation’s emission standards are set at low levels intended to protect public health. The CWP Regulation, adopted in 2007, established two phases of emissions standards: an initial Phase I, and later, a more stringent Phase 2 that requires all finished goods, such as flooring, destined for sale or use in California to be made using compliant composite wood products. As of January 2014, only Phase 2 products are legal for sale in California. Thus, all new wood products installed in the Project would comply with the more stringent

Phase 2 requirements. Impacts with respect to formaldehyde would be less than significant.

Mr. Offermann claims that the Project will result in significant health risks to residents and employees from indoor air quality, specifically formaldehyde. Mr. Offermann references recent research papers he participated in, the most recent of which is *Indoor Air Quality in California Homes with Code-Required Mechanical Ventilation (2020)*³, as evidence that the Project would have significant health risks resulting from poor indoor air quality. This most recent research paper collected data from 70 homes about ventilation practices and indoor air quality and measured indoor air concentrations of formaldehyde emitted from composite wood products that might contain formaldehyde-based glues. According to the research paper, the study characterized 70 homes built between 2011 and 2017. In order to be part of the study, buildings also had to meet several other conditions such as, being a single-family detached structure, located in California, and built in 2011 or later. According to the research paper, the “built in 2011 or later” requirement was used as a proxy for single-family detached homes built to comply with the 2008 version of the California Title 24 standards. In contrast, the Project would be built to the most current California Title 24 standards. Compared to the 2008 standard, for example, current code (2019 version of the Title 24 standards) includes ventilation requirements that improve indoor air quality protecting residents from air pollution originating from outdoor and indoor sources.⁴

Mr. Offerman fails to disclose that the research paper, *Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation*, discussed indoor air quality and the effect of fan sizing for ventilation with respect to Title 24. This research paper found that the adopted fan sizing method in the 2019 version of the Title 24 standards 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 research paper 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 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, the research paper expressly 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

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 California Energy Commission, News Release, May 9, 2018, <https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first>. Accessed September 28, 2023.

⁵ Chan, W., Kim, Y., Singer, B., and Walker I. 2019. *Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation*. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200, DOI: 10.20357/B7QC7X.

⁶ Chan, W., Kim, Y., Singer, B., and Walker I. 2019. *Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation*. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200, DOI: 10.20357/B7QC7X.

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’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 CWP 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, State, and federal requirements pertaining to the use of indoor building materials. The Project will be built to the newest version of the Title 24 standards, and 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 future project residents and employees from indoor air quality.

The comment speculates that the Project could have an effect on the Project’s future residents and employees, which is not considered to be an impact under CEQA and need not be analyzed in the CEQA Consistency Memorandum. 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 credible evidence.

In addition, Mr. Offermann substantially overstates health impacts as his analysis is based on a

⁷ *Ibid.*

⁸ *Ibid.*

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 September 28, 2023.

¹⁰ *Ibid.*

series of inaccurate assumptions, including that: (1) the Project's construction materials would not be compliant with the applicable regulations to reduce formaldehyde exposure; (2) formaldehyde daily emissions from construction materials would be constant for over 70 years for residents; (3) residents would live in their units for 70 years; 4) residential occupants and employees would inhale 20 cubic meters of air per day; and 5) employees would work at the Project Site for 8 hours/day, 5 days/week, 50 weeks/year for 45 years. In fact: (1) construction materials would comply with all applicable regulations; (2) the amount of formaldehyde off-gassing from construction materials decreases over time; (3) per the United States Environmental Protection Agency (U.S.EPA), lifetime risk values for residents should be based on an exposure duration of 350 days per year for 30 years, not 70, and residents would not live in their units for more than a few years¹¹; (4) according to the American Lung Association, the average person inhales approximately 2,000 gallons of air per day, or roughly 7.57 cubic meters per day¹²; and (5) based on the U.S. Bureau of Labor Statistics, the median number of years workers remain in a job is 4.1 years, not 45.¹³ Therefore, Mr. Offermann's analysis is not credible.

Therefore, the Project would not require mitigation measures to reduce significant indoor air quality and health risk impacts. No additional analysis is warranted.

Response to Comment 2-14

This comment serves as a conclusion to the comment letter. As detailed in the responses above, the Public Review IS/MND is adequate, and no additional analysis is warranted.

¹¹ United States Census Bureau, Calculating Migration Expectancy Using ACS Data, <https://www.census.gov/topics/population/migration/guidance/calculating-migration-expectancy.html>. Accessed September 28, 2023. FiveThirtyEight, How Many Times Does The Average Person Move?, <https://fivethirtyeight.com/features/how-many-times-the-average-person-moves/>. Accessed September 28, 2023.

¹² American Lung Association, How Your Lungs Get the Job Done, <https://www.lung.org/blog/how-your-lungs-work>. Accessed September 28, 2023.

¹³ United States Bureau of Labor Statistics, News Release, Employee Tenure in 2022, released September 22, 2022, <https://www.bls.gov/news.release/pdf/tenure.pdf>. Accessed September 28, 2023.

Responses to Comment 3

California Department of Transportation
District 7
100 S. Main Street, MS 16
Los Angeles, CA 90012
Letter dated September 20, 2023
Email received October 3, 2023

Response to Comment 3-1

This comment acknowledges receipt of the Public Review IS/MND and provides a general description of the Project. As this comment does not raise any specific issues with respect to the content and adequacy of the Public Review IS/MND, no further response is warranted.

Response to Comment 3-2

This comment summarizes the analyses provided in the Transportation Section of the Public Review IS/MND and acknowledges that the Project's potential impacts (on transportation) would be less than significant, and no mitigation measures are necessary. The comment also includes comments related to the need for a designated truck route for construction trucks, covering construction trucks with tarpaulin, the need for a Caltrans transportation permit for oversized transport vehicles on State highways, and limiting construction traffic to off-peak periods to minimize the potential impacts on State facilities. Construction permits will be required as part of Project construction, and all appropriate permits that are necessary from Caltrans will be obtained when needed. As this comment does not raise any specific issues with respect to the content and adequacy of the Public Review IS/MND, no further response is warranted.

Response to Comment 3-3

This comment provides contact information for the commenter. As this comment does not raise any specific issues with respect to the content and adequacy of the Public Review IS/MND, no further response is warranted.

3.0 Errata to the IS/MND

Text changes are intended to clarify or correct information in the Public Review IS/MND as initiated by the Lead Agency staff or due to comments raised during the public review period. Revisions to the Public Review IS/MND are presented below as excerpts, with deleted text indicated as strikethrough (~~example~~) and added/modified text indicated as double underline (example).

It is noted, none of the corrections or clarifications to the IS/MND identified below constitute significant new information pursuant to CEQA Guidelines Section 15162. They do not involve substantial changes to the Project or environmental setting, or new information of substantial importance that required major revisions to the IS/MND. They do not show that the Project would have a new significant environmental effect that was not identified in the IS/MND or result in a substantial increase in the severity of a significant effect identified in the IS/MND. Additionally, they do not include any new or considerably different mitigation measures from those specified in the IS/MND.

Section 4.18: Tribal Cultural Resources

Page 93, Mitigation Measure MM TCR-1 is revised as follows:

MM TCR-1 The Project shall retain a professional Native American monitor from or approved by a consulting Tribe. ~~The monitor shall be present during construction excavations such as clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project.~~ The monitor shall be retained prior to the commencement of any “ground-disturbing activity” for the subject property at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). “Ground-disturbing activity” shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching. A copy of the executed monitoring agreement shall be submitted to the Lead Agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

The Native American monitor shall complete daily monitoring logs to provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the consulting Tribe. Monitor logs shall identify and describe any discovered tribal cultural resources and discovered Native American (ancestral) human remains and burial goods. Copies of the monitor logs shall be provided to the Project Applicant/Lead Agency upon written request to the consulting Tribe.

If cultural resources are encountered, the Native American monitor will have the authority to request ground disturbing activities cease within 50-feet of discovery to assess and document potential finds in real time. Construction activities within 50-feet of discovery shall not resume until the discovery has been assessed by the Native American monitor. Monitoring activities ~~will cease when potential for significant buried resources have been exhausted (e.g., at the completion of construction excavation activity), as determined by the Qualified Archaeologist and in consultation with the Native American monitor~~ shall conclude upon the latter of the following (1) written confirmation to the consulting Tribe from a designated point of contact for the Project Applicant/Lead Agency that all ground-disturbing activities and phases associated with the Project are complete; or (2) a determination or written notification by the consulting Tribe to the Project Applicant/Lead Agency that no future, planned construction activity and/or development/construction phase at the Project Site possesses the potential to impact tribal cultural resources. The Native American monitor and archaeological monitor ~~will be present during construction excavation activity. Personnel needs would be determined during a pre-construction meeting.~~



Appendix A

Comment Letters

From: Gabrieleno Administration <admin@gabrielenoindians.org>
Sent: Tuesday, August 29, 2023 12:28 PM
To: Samantha Tewartart <stewasart@SGCH.ORG>
Cc: Kara Grant <2karagrants@gmail.com>
Subject: Re: AB52- Rubio Village Mixed-Use

Hello Samatha

We can not agree to the mitigations for they do not help protect our Tribal cultural resources. We would like you to utilize the attached mitigation measures for the protection of our tribal cultural resources. If you have any questions feel free to contact us or we can set up a phone call with Chairman Salas.

1-1

Thank you

Brandy Salas

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723

Office: 844-390-0787

website: www.gabrielenoindians.org



The region where Gabrieleno culture thrived for more than eight centuries encompassed most of Los Angeles County, more than half of Orange County and portions of Riverside and San Bernardino counties. It was the labor of the Gabrieleno who built the missions, ranchos and the pueblos of Los Angeles. They were trained in the trades, and they did the construction and maintenance, as well as the farming and managing of herds of livestock. "The Gabrieleno are the ones who did all this work, and they really are the foundation of the early economy of the Los Angeles area ". "That's a contribution that Los Angeles has not recognized--the fact that in its early decades, without the Gabrieleno, the community simply would not have survived."



GABRIELEÑO BAND OF MISSION INDIANS – KIZH NATION

California State Recognized Aboriginal Tribe of the Los Angeles Basin

(Historically known as the Gabrieleño Tribal Council - San Gabriel Band of Mission Indians)



GABRIELENO BAND OF MISSION INDIANS – KIZH NATION - PROPOSED TCR MITIGATION MEASURES

TCR-1: Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities

- A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any “ground-disturbing activity” for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). “Ground-disturbing activity” shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.
- B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.
- C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or “TCR”), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.
- D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

TCR-2: Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/Non-Ceremonial)

- A. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover

and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

TCR-3: Unanticipated Discovery of Human Remains and Associated Funerary or Ceremonial Objects

- A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.
- B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed.
- C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).
- D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.
- E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

PLEASE NOTE THE FOLLOWING:

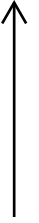
Any/all revisions to the Kizh's proposed TCR mitigations set forth above must be requested in writing, and not more than ten (30) calendar days from the date that we consulted on the subject Project so that we can conclude consultation. Requested revisions shall be delivered to the Kizh via email at admin@gabrielenoindians.org, and in a Word document, redline format. Please include as the email subject: "REQUEST FOR MITIGATION REVISIONS," and identify the project name and location/address. If revisions are not requested within 10 calendar days of consultation, the Kizh's proposed mitigations are presumed accepted as proposed (i.e., as set forth above). The laws preserving the confidentiality of Native

The laws preserving the confidentiality of Native

American documents and records prohibits the inclusion of any information about the location of Native American artifacts, sites, sacred lands, or any other information that is exempt from public disclosure pursuant to the Public Records Act. (Cal. Code Regs. § 15120(d) Rocklin (2011) 197 Cal.App.4th 200, at p. 220. Please be advised that these protective mitigation measures are property of the KIZH Nation Tribal

government and no other entity or Tribal government nor should they be utilized for any other Tribal government or entity and are protected under the AB52 confidentiality act

Thank you for your anticipated cooperation.



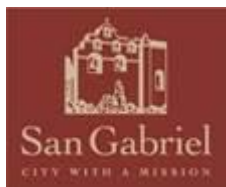
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On Tue, Aug 29, 2023 at 1:30 PM Samantha Tewasart <stewasart@sgch.org> wrote:

Good afternoon Brandy,

Comment letter received.

Thank you,



Samantha Tewasart

Planning Manager

City of San Gabriel

425 South Mission Drive

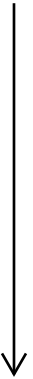
San Gabriel, California 91776

Phone: 626.308.2806 ext. 4623

stewasart@sgch.org

SanGabrielCity.com

1-2



From: Gabrieleno Administration <admin@gabrielenoindians.org>
Sent: Tuesday, August 29, 2023 4:42 PM
To: Samantha Tewasart <stewasart@SGCH.ORG>
Cc: Kara Grant <2karagrants@gmail.com>
Subject: Re: AB52- Rubio Village Mixed-Use

Hello Samatha

If you like we can set up a follow up meeting to help you better understand. Please let us know.

Thank you

Brandy Salas

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723

Office: 844-390-0787

website: www.gabrielenoindians.org



The region where Gabrieleño culture thrived for more than eight centuries encompassed most of Los Angeles County, more than half of Orange County and portions of Riverside and San Bernardino counties. It was the labor of the Gabrieleño who built the missions, ranchos and the pueblos of Los Angeles. They were trained in the trades, and they did the construction and maintenance, as well as the farming and managing of herds of livestock. "The Gabrieleño are the ones who did all this work, and they really are the foundation of the early economy of the Los Angeles area ". "That's a contribution that Los Angeles has not recognized--the fact that in its early decades, without the Gabrieleño, the community simply would not have survived."

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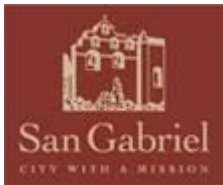
On Tue, Aug 29, 2023 at 4:48 PM Samantha Tewasart <stewasart@sgch.org> wrote:

Hi Brandy,

The City had an hour long consultation with Chairman Salas two weeks ago and have received the comments that were submitted today. If there are additional comments to be submitted to the City, please let me know.

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Thank you,



Samantha Tewasart

Planning Manager

City of San Gabriel

425 South Mission Drive

San Gabriel, California 91776

Phone: 626.308.2806 ext. 4623

stewasart@sgch.org

SanGabrielCity.com

From: Gabrieleno Administration <admin@gabrielenoindians.org>
Sent: Wednesday, August 30, 2023 12:31 PM
To: Samantha Tewasart <stewasart@SGCH.ORG>
Subject: Re: AB52- Rubio Village Mixed-Use

Hello Samantha

Thank you for your email. Yes we understand we that you had an hour long consultation with Chairman Salas. However after reviewing the mitigation measures in the draft ISMND we cannot agree to them. So Chairman Salas is asking if we can have another meeting to explain our concerns.

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Brandy Salas

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723

Office: 844-390-0787

website: www.gabrielenoindians.org



The region where Gabrieleño culture thrived for more than eight centuries encompassed most of Los Angeles County, more than half of Orange County and portions of Riverside and San Bernardino counties. It was the labor of the Gabrieleño who built the missions, ranchos and the pueblos of Los Angeles. They were trained in the trades, and they did the construction and maintenance, as well as the farming and managing of herds of livestock. “The Gabrieleño are the ones who did all this work, and they really are the foundation of the early economy of the Los Angeles area “. “That’s a contribution that Los Angeles has not recognized--the fact that in its early decades, without the Gabrieleño, the community simply would not have survived.”

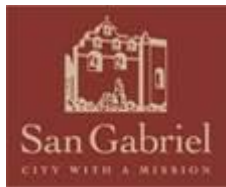
On Thu, Aug 31, 2023 at 8:04 AM Samantha Tewasart <stewasart@sgch.org> wrote:

Good morning Brandy,

We can review the mitigation measures to fit more of the language in your attached comment sheet. The revised mitigation measure will be a part of the responses to comments.

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Thank you,



Samantha Tewasart

Planning Manager

City of San Gabriel

425 South Mission Drive

San Gabriel, California 91776

Phone: 626.308.2806 ext. 4623

stewasart@sgch.org

SanGabrielCity.com

From: Gabrieleno Administration <admin@gabrielenoindians.org>
Sent: Thursday, August 31, 2023 12:33 PM
To: Samantha Tewasart <stewasart@SGCH.ORG>
Cc: Kara Grant <kara@grant-law.net>; Matt Teutimez.Kizh Gabrieleno <matt.teutimez@gmail.com>
Subject: Re: AB52- Rubio Village Mixed-Use

Hello Samantha

Thank you for your response . That's fine please review and feel free to revise what you see fit and return for our review/comment to your revision. Please Note: that our mitigations we provided are solely ours on behalf of our tribal government therefore they should not be used to implement any third party consultants or entities. Thank you for your time and consideration.

Thank you

Brandy Salas

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723

Office: 844-390-0787

website: www.gabrielenoindians.org



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T 510.836.4200
F 510.836.4205

1939 Harrison Street, Ste. 150
Oakland, CA 94612

www.lozeaudrury.com
Marjan@lozeaudrury.com

Via Email

September 22, 2023

Samantha Tewasart, Planning Manager
Community Development Department
City of San Gabriel
425 South Mission Drive
San Gabriel, CA 91776
stewasart@sgch.org

Re: Comment on the Initial Study (IS) and Mitigated Negative Declaration (MND) for Rubio Village Mixed-Use Project

Dear Chairperson Klawiter and Honorable Members of the Planning Commission:

I am writing on behalf of Supporters Alliance for Environmental Responsibility (“SAFER”) regarding the Rubio Village Mixed-Use Project, including all actions related or referring to the proposed construction of a mixed-use development consisting of 225 multi-family residential units in three buildings with a total floor area of 306,793 square feet, located at 201-217 South San Gabriel Boulevard in the City of San Gabriel (“Project”).

After careful review of the IS/MND and its accompanying documents, SAFER concludes that the IS/MND fails as an informational document, and that there is a fair argument that the Project may have adverse environmental impacts. Therefore, we request that the City of San Gabriel (“City”) prepare an environmental impact report (“EIR”) for the Project pursuant to the California Environmental Quality Act (“CEQA”), Public Resources Code section 21000, et seq.

This comment has been prepared with the assistance of Certified Industrial Hygienist Francis Offermann, PE, CIH, Wildlife Biologist Shawn Smallwood, PhD, and environmental experts Matt Hagemann, P.G., C.Hg., and Paul E. Rosenfeld, Ph.D., of the Soil/Water/Air Protection Enterprise (“SWAPE”).

PROJECT DESCRIPTION

The Applicant, Rubio Village LLC, is seeking approval from the City for the Rubio Mixed-Use Development. The Project is located at 201-217 South San Gabriel Boulevard, which would include the development of 3 buildings consisting of 225 multi-family residential units and approximately 13,449 square feet (sf) of commercial uses on an approximately 2.9 acre site.

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The Project would construct a total of 306,793 sf with 191,453 sf of residential uses, 13,449 sf of commercial uses, and 101,891 sf of above-ground parking.

Building A, located north of the Rubio Wash, fronting East Live Oak Street, would be a six-story building with 206 residential units, amenity spaces, two retail spaces, two restaurant spaces, and vehicle parking within two subterranean levels, the ground floor, and the second floor. Building B, located south of the Rubio Wash fronting Pine Street, would be a two-story building with 3 three-bedroom townhouses. Building C, located south of the Rubio Wash fronting South San Gabriel Boulevard, would be a four-story building with 16 one-bedroom residential units and a restaurant space.

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LEGAL STANDARD

As the California Supreme Court has held “[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR.” (*Communities for a Better Env’t v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-320 [citing *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75, 88; *Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles* (1982) 134 Cal.App.3d 491, 504–505].) “Significant environmental effect” is defined very broadly as “a substantial or potentially substantial adverse change in the environment.” (Pub. Res. Code § 21068; *see also* 14 CCR § 15382.)

The EIR is the very heart of CEQA. *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1214 (*Bakersfield Citizens*); *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927. The EIR is an “environmental ‘alarm bell’ whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return.” *Bakersfield Citizens*, 124 Cal.App.4th at 1220. The EIR also functions as a “document of accountability,” intended to “demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action.” *Laurel Heights Improvements Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 392. The EIR process “protects not only the environment but also informed self-government.” *Pocket Protectors*, 124 Cal.App.4th at 927.

2-3

Where an initial study shows that the project may have a significant effect on the environment, a mitigated negative declaration may be appropriate. However, a mitigated negative declaration is proper *only* if the project revisions would avoid or mitigate the potentially significant effects identified in the initial study “to a point where clearly no significant effect on the environment would occur, and...there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment.” PRC §§ 21064.5 and 21080(c)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331. In that context, “may” means a reasonable possibility of a significant effect on the environment. PRC §§ 21082.2(a), 21100, 21151(a); *Pocket Protectors*, 124 Cal.App.4th at 927; *League for Protection of Oakland's etc. Historic Res. v. City of Oakland* (1997) 52 Cal.App.4th 896, 904–05.



Under the “fair argument” standard, an EIR is required if any substantial evidence in the record indicates that a project may have an adverse environmental effect—even if contrary evidence exists to support the agency’s decision. 14 CCR § 15064(f)(1); *Pocket Protectors*, 124 Cal.App.4th at 931; *Stanislaus Audubon Society v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-51; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602. The “fair argument” standard creates a “low threshold” favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. *Pocket Protectors*, 124 Cal.App.4th at 928. The “fair argument” standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains:

This ‘fair argument’ standard is very different from the standard normally followed by public agencies in making administrative determinations. Ordinarily, public agencies weigh the evidence in the record before them and reach a decision based on a preponderance of the evidence. [Citations]. The fair argument standard, by contrast, prevents the lead agency from weighing competing evidence to determine who has a better argument concerning the likelihood or extent of a potential environmental impact. The lead agency’s decision is thus largely legal rather than factual; it does not resolve conflicts in the evidence but determines only whether substantial evidence exists in the record to support the prescribed fair argument.

Kostka & Zisheke, *Practice Under CEQA*, §6.29, pp. 273–74.

The Courts have explained that “it is a question of law, not fact, whether a fair argument exists, and the courts owe no deference to the lead agency’s determination. Review is de novo, with a preference for resolving doubts in favor of environmental review.” *Pocket Protectors*, 124 Cal.App.4th at 928 (emphasis in original).

DISCUSSION

A. There is Substantial Evidence of a Fair Argument that the Project Will Have Adverse Environmental Impacts on Biological Resources.

An EIR is required because substantial evidence in the record indicates a fair argument that the Project will have significant biological impacts. Specifically, expert wildlife biologist Dr. Shawn Smallwood, Ph.D. has concluded that the Project site has value as a habitat for special status species and that the Project will have significant impacts on biological resources. Dr. Smallwood’s comments and CV are attached Exhibit A. The City therefore must prepare an EIR for the Project. Dr. Smallwood’s comments are supported by a site visit by wildlife biologist Noriko Smallwood (“Ms. Smallwood”). (Ex. A, p. 1.) Ms. Smallwood visited the site for 2.5 hours on September 7, 2023, starting at 7:21 am. (*Id.*) She walked the site’s perimeter, using binoculars to scan for and a camera to capture wildlife. (*Id.*)



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1. The IS/MND Fails to Adequately Describe the Project's Environmental Setting.

The City inadequately characterized the existing environmental setting and the site's ability to provide habitat for rare, special-status species. Every CEQA document must start from a "baseline" assumption. The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. *Communities for a Better Env't. v. So. Coast Air Qual. Mgmt. Dist.* (2010) 48 Cal. 4th 310, 321. Section 15125(a) of the CEQA Guidelines (14 C.C.R., § 15125(a)) states in pertinent part that a lead agency's environmental review under CEQA:

"...must include a description of the physical environmental conditions in the vicinity of the project, *as they exist at the time [environmental analysis] is commenced*, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant." (Emphasis added.)

(See, *Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 124-125.) As the court of appeal has explained, "the impacts of the project must be measured against the 'real conditions on the ground,'" and not against hypothetical permitted levels. (*Save Our Peninsula, supra*, 87 Cal.App.4th 99, 121-123.)

The IS/MND states, "No species that are identified as candidate, sensitive, or special-status species are known to exist in the local vicinity due to urbanized conditions." (IS/MND, p.33). Dr. Smallwood's report shows that the IS/MND is erroneous. Dr. Smallwood points out that the IS/MND includes no analysis by a biologist at all. Ms. Smallwood observed 18 species of vertebrate wildlife at and near the Project site, three of which were special-status species. (Ex. A, p. 2, Table 1.) These species include the Allen's hummingbird (*Selasphorus sasin*) and the Western gull (*Larus occidentalis*), which are identified as "Birds of Conservation Concern."¹ (*Id.*) Birds of Conservation Concern include "migratory nongame birds that without additional conservation action are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973."² Ms. Smallwood also observed the three American kestrels (*Falco sparverius*) socializing and actively hunting on-site; she further observed them bathing in the Rubio Wash. American kestrels are classified as a Birds of Prey, which are a valuable resource to the State of California, and are therefore protected under state law.³ (*Id.*)

"Special Status Species" is a universal term used in the scientific community for species that are considered sufficiently rare that they require special consideration and/or protection and should be, or have been, listed as rare, threatened or endangered by the Federal and/or State

¹ See, US Fish & Wildlife Service ("USFW"), Birds of Conservation Concern 2021, pp. 18-19 <https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf>.

² *Id.*, p. 4.

³ See, Fish and Game Code, Sections 3503, 3503.5, 3505 and 3513, and California Code of Regulation, Title 14, Sections 251.1, 652 and 783-786.6



governments.”⁴ For example, thirteen of the species Ms. Smallwood observed are also protected by the federal Migratory Bird Treat Act and California’s Migratory Bird Protection Act. (Ex. A, p. 8.) This includes Ms. Smallwood’s observations of the Anna’s hummingbird and the Allen’s hummingbird, which were foraging on the Project site. (*Id.*, p. 3.)

Dr. Smallwood’s project models indicate the City has failed to adequately analyze the biological impacts arising from this Project. Specifically, Dr. Smallwood posits that “[a]ssuming [Ms. Smallwood’s] ratio of special-status to non-special-status species was to hold with through the detections of all 90 predicted species, then continued surveys would eventually detect 15 special-status species of vertebrate wildlife.” (Ex. A, p. 9.) Dr. Smallwood thus explains that the City must prepare additional surveys to obtain a true inventory of the wildlife at the Project site.

Clearly, the IS/MND fails to accurately describe the Project’s environmental setting. A new CEQA document is therefore required.

2. The Project Will Have Significant Adverse Impacts on Special Status Species.

An EIR is required if any substantial evidence in the record indicates that a project may have an adverse environmental effect—even if contrary evidence exists to support the agency’s decision. (CEQA Guidelines § 15064(f)(1); *Stanislaus Audubon v. Stanislaus* (1995) 33 Cal.App.4th 144, 150-151 (1995)). Dr. Smallwood concludes that the Project will have adverse impacts on special status species through direct loss of habitat. (Ex. A, p. 16.) He concludes that the Project site supports 42 bird nests. (Ex. A. p. 17.) In addition, the Project will result in the loss of foraging area for special status species. (*Id.*).

Dr. Smallwood additionally points out that the Project will adversely impacts wildlife movement. He concludes that volant wildlife use the site as a stopover area. The project would cut wildlife off from one of the last remaining stopover and staging opportunities in the project area, forcing volant wildlife to travel even farther between remaining stopover sites.” (Ex. A. p. 17.) Dr. Smallwood points out that the nearby Rubio Wash is a feature likely to be followed by wildlife, which increases the importance of the Project site to wildlife. (*Id.*)

The IS/MND fails to analyze the Project’s impacts due to bird-window collisions. Dr. Smallwood concludes that the extensive use of glass in the 6-story buildings will lead to increased bird-window collisions. (Ex.A, p. 18.) He notes that there are “89 special status species of birds with potential to use the site’s aerosphere.” (*Id.*) Many of these birds are likely to experience window collisions due to the Project. Dr. Smallwood calculates that the Project will cause 475 bird deaths due to window collisions each year, with the vast majority of these birds being protected under the Migratory Bird Treaty Act. (Ex. A, p. 20.)

⁴ Sacramento County, Planning and Environmental Review, “Special Status Species,” https://planning.saccounty.net/InterestedCitizens/Pages/ER_SpecialStatusSpecies.

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The IS/MND fails to analyze the Project’s impacts related to wildlife traffic fatalities. Dr. Smallwood calculates that the Project will generate 11,130,450 annual vehicle miles travelled. (Id. p. 23). He predicts that this will result in 610 wildlife fatalities per year. (Id.).

2-9

Dr. Smallwood proposes numerous mitigation measures that could vastly reduce the above impacts, such as avoiding construction during nesting season, applying bird-safe window treatments, landscaping measures and many others. These mitigation measures should be analyzed in an EIR and imposed if feasible.

2-10

Since there is substantial evidence of a fair argument that the Project will have adverse biological impacts, an EIR is required to analyze and mitigate those impacts.

B. There is Substantial Evidence of a Fair Argument that the Project Will Have Significant Air Quality Impacts.

1. The MND Fails to Accurately Analyze the Project’s Air Quality Impacts.

The IS/MND relied on unsubstantiated input parameters to estimate project emissions and thus the Project may result in significant air quality impacts. Environmental consulting firm SWAPE assisted in the review of the Project and concluded that after reviewing the IS/MND and the Air Quality and Greenhouse Gas Analyses’ CalEEMod output files, respectively included as Appendices B and F to the IS/MND, several model inputs used to generate a project’s construction and operation emissions were found to not be consistent with information disclosed in the IS/MND. As a result, the Project’s construction and operational emissions are underestimated. An EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that Project construction and operation will have on local and regional air quality. SWAPE’s expert comments and CVs are attached as Exhibit B.

2-11

Specifically, SWAPE identified several values used in the IS/MND and the Air Quality and Greenhouse Gas Analyses that were found to be either inconsistent with information provided in the IS/MND or otherwise unjustified, including:

1. Failure to Provide Complete CalEEMod Output Files
2. Unsubstantiated Changes to Individual Construction Phase Lengths
3. Unsubstantiated Reduction to Gas Fireplaces
4. Underestimated Operational Vehicle Trips
5. Unsubstantiated Changes to Construction Equipment Values

As a result of these errors in the IS/MND, the Project’s construction and operational emissions were underestimated and cannot be relied upon to determine the significance of the Project’s air quality impacts. This is worth mentioning because as SWAPE explains, “the CalEEMod User’s Guide requires any changes to model defaults be justified.” (Ex. B, p. 5). Here, however, despite the numerous observations where the models were amended, the Applicant does not provide sufficient justification to make such substantial changes. Thus, the



IS/MND fails to support its conclusions with substantial evidence, and an EIR is needed to adequately address and accordingly mitigate the air quality impacts of the proposed Project.

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cont

2. The IS/MND failed to Adequately Evaluate Health Risks from Diesel Particulate Matter Emissions and thus the Project may result in Significant Health Impacts.

An EIR should be prepared to evaluate the significant health impacts to individuals and workers from the Project’s operational and construction-related diesel particulate matter (“DPM”) emissions. The IS/MND incorrectly concluded that the Project would have a less-than significant health risk impact without conducting a quantified construction or operational health risk analysis (“HRA”). (See, IS/MND, pp. 30-31.) However, the IS/MND fails to mention or evaluate the toxic air contaminant (“TAC”) emissions associated with Project operation whatsoever. As such, the IS/MND’s evaluation of the Project’s potential health risk impacts, as well as the subsequent less-than-significant impact conclusion, is incorrect for two reasons.

First, by failing to prepare a quantified construction and operational HRA, the Project is inconsistent with CEQA’s requirement to correlate the increase in emissions that the Project would generate to the adverse impacts on human health caused by those emissions. (Ex. B, p. 10.) The IS/MND’s conclusion is also inconsistent with recent guidance published by the Office of Health Hazard Assessment (“OEHHA”). (See, “Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf>.)

2-12

Second, by failing to prepare a quantified construction and operational HRA for nearby, existing sensitive receptors, the IS/MND fails to compare the excess health risk impact of the Project to the SCAQMD’s specific numeric threshold of 10 in one million. Without conducting a quantified construction and operational HRA, the IS/MND also fails to evaluate the cumulative lifetime cancer risk to nearby, existing receptors from the Project’s construction and operation together. This is incorrect, and as a result, the IS/MND’s evaluation cannot be relied upon to determine Project significance. OEHHA guidance requires that the excess cancer risk be calculated separately for all sensitive receptor age bins, then summed to evaluate the total cancer risk posed by all Project activities. Therefore, in accordance with the most relevant guidance, an assessment of the health risk posed to nearby, existing receptors from Project construction and operation should have been conducted and compared to the SCAQMD threshold of 10 in one million.

Thus, to more accurately determine the health risks associated with the Project’s operational and construction related DPM emissions, an EIR should be prepared that includes updated health risk calculations using correct guidance.

3. There is Substantial Evidence of a Fair Argument that the Project Will Have a Significant Health Risk Impact from Indoor Air Quality Emissions.

Certified Industrial Hygienist, Francis “Bud” Offermann, PE, CIH, has conducted a review of the proposed Project and relevant documents regarding the Project’s indoor air emissions. (Indoor Environmental Engineering Comments (September 14, 2023)). Mr. Offermann concludes that it is likely that the Project will expose residents and commercial employees of the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic. Mr. Offermann’s expert comments and CV are attached as Exhibit C.

Mr. Offermann explains that many composite wood products used in building materials and furnishings commonly found in offices, warehouses, residences, hotels, and commercial spaces contain formaldehyde-based glues which off-gas formaldehyde over a long period of time. He states, “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.” (Ex. C, pp. 2-3.)

Formaldehyde is a known human carcinogen. Mr. Offermann states that there is a fair argument that future residents will be exposed to a cancer risk from formaldehyde of approximately 120 per million, assuming all materials are compliant with the California Air Resources Board’s formaldehyde airborne toxics control measure. (Ex. C, pp. 3-4.) This exceeds the South Coast Air Quality Management District’s (“SCAQMD”) CEQA significance threshold for airborne cancer risk of 10 per million. (*Id.*, p. 3.)

In addition, Mr. Offermann states that there is a fair argument that the employees of the Project’s commercial spaces are expected to experience significant work-day exposures. (Ex. C, pp. 4-5.) This exposure of employees would result in “significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in offices, warehouses, residences and hotels.” (*Id.*, p. 4.) Assuming they work eight-hour days, five days per week, an employee would be exposed to a cancer risk of approximately 17.7 per million, assuming all materials are compliant with the California Air Resources Board’s formaldehyde airborne toxics control measure. (*Id.*, pp. 4-5.) This is more than the SCAQMD CEQA significance threshold for airborne cancer risk of 10 per million. (Ex. B, p. 10.)

Mr. Offermann also notes that the high cancer risk that may be posed by the Project’s indoor air emissions likely will be exacerbated by the additional cancer risk that exists as a result of the Project’s location near roadways with moderate to high traffic (i.e. San Gabriel Boulevard, East Live Oak Street, South Pine Street, East Broadway, East Las Tunas Blvd., etc.) and the high levels of PM2.5 already present in the ambient air. (Ex. C, pp. 10-12.) Specifically, he notes that



“the SCAQMD’s MATES V study cites an existing cancer risk of 467 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. 12.) No analysis has been conducted of the significant cumulative health impacts that will result to future residents and employees of the Project, meaning that the City cannot conclude with substantial evidence that the Project will not result in significant air quality impacts.

Mr. Offermann concludes that these significant environmental impacts should be analyzed in an EIR, and mitigation measures should be imposed to reduce the risk of formaldehyde exposure. (Ex. C, p. 5.) Mr. Offermann identifies mitigation measures that are available to reduce these significant health risks, including the installation of air filters and a requirement that the applicant use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins in the buildings’ interiors. (*Id.*, pp. 12-13.)

The City has a duty to investigate issues relating to a project’s potential environmental impacts, especially those issues raised by an expert’s comments. (See, *Cty. Sanitation Dist. No. 2 v. Cty. of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98 [“under CEQA, the lead agency bears a burden to investigate potential environmental impacts”].) In addition to assessing the Project’s potential health impacts to residents and employees, Mr. Offermann identifies the investigatory path that the City should be following in developing an EIR to more precisely evaluate the Projects’ future formaldehyde emissions and establishing mitigation measures that reduce the cancer risk below the SCAQMD level. (Ex. C, pp. 6-10.) Such an analysis would be similar in form to the air quality modeling and traffic modeling typically conducted as part of a CEQA review.

The failure to address the Project’s formaldehyde emissions is contrary to the California Supreme Court’s decision in *California Building Industry Ass’n v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386 (“*CBIA*”). At issue in *CBIA* was whether the Air District could enact CEQA guidelines that advised lead agencies that they must analyze the impacts of adjacent environmental conditions on a project. The Supreme Court held that CEQA does not generally require lead agencies to consider the environment’s effects on a project. (*CBIA*, 62 Cal.4th at 800-801.) However, to the extent a project may exacerbate existing adverse environmental conditions at or near a project site, those would still have to be considered pursuant to CEQA. (*Id.* at 801 [“CEQA calls upon an agency to evaluate existing conditions in order to assess whether a project could exacerbate hazards that are already present”].) In so holding, the Court expressly held that CEQA’s statutory language required lead agencies to disclose and analyze “impacts on a project’s users or residents that arise from the project’s effects on the environment.” (*Id.* at 800 [emph. added].)

The carcinogenic formaldehyde emissions identified by Mr. Offermann are not an existing environmental condition. Those emissions to the air will be from the Project. Residents and commercial employees will be users of the Project. Currently, there is presumably little if any formaldehyde emissions at the site. Once the project is built, emissions will begin at levels



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cont

that pose significant health risks. Rather than excusing the City from addressing the impacts of carcinogens emitted into the indoor air from the project, the Supreme Court in *CBIA* expressly finds that this type of effect by the project on the environment and a “project’s users and residents” must be addressed in the CEQA process.

The Supreme Court’s reasoning is well-grounded in CEQA’s statutory language. CEQA expressly includes a project’s effects on human beings as an effect on the environment that must be addressed in an environmental review. “Section 21083(b)(3)’s express language, for example, requires a finding of a ‘significant effect on the environment’ (§ 21083(b)) whenever the ‘environmental effects of a project will cause substantial adverse effects on human beings, directly or indirectly.’” (*CBIA*, 62 Cal.4th at 800 [emph. in original].) Likewise, “the Legislature has made clear—in declarations accompanying CEQA’s enactment—that public health and safety are of great importance in the statutory scheme.” (*Id.*, citing e.g., §§ 21000, subds. (b), (c), (d), (g), 21001, subds. (b), (d).) It goes without saying that the future residents and commercial employees of the Project are human beings and the health and safety of those residents and workers is as important to CEQA’s safeguards as nearby residents currently living near the project site.

Because Mr. Offermann’s expert review is substantial evidence of a fair argument of a significant environmental impact to future users of the Project, an EIR must be prepared to disclose and mitigate those impacts.

CONCLUSION

For the foregoing reasons, SAFER believes that the IS/MND prepared for the Project is wholly inadequate. SAFER requests that the City prepare an Environmental Impact Report (“EIR”) to analyze and mitigate the Project’s significant adverse environmental impacts. Thank you.

Sincerely,



Marjan R. Abubo
LOZEAU DRURY LLP



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EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Samantha Tewart, Senior Planner
City of San Gabriel
425 South Mission Drive
San Gabriel, CA 91776

8 September 2023

RE: Rubio Village

Dear Ms. Tewart,

I write to comment on Initial Study and Negative Mitigated Declaration (IS/MND) that was prepared in support of the Rubio Village Mixed-Use Project, which I understand would add 225 multi-family residential units and 13,449 sf of commercial uses for a total 306,793 sf in 3 buildings up to 77.17 feet in height on 2.9 acres of land on either side of Rubio Wash, located southwest of the intersection of East Live Oak Street and South San Gabriel Blvd. I am concerned over the lack of survey effort needed to characterize the existing environmental setting, and the missing analyses of potential project impacts to wildlife.

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I also worked as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, wildlife interactions with the anthrosphere, and conservation of rare and endangered species. I authored many papers on these and other topics. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and Raptor Research Foundation, and I've lectured part-time at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-seven years. My CV is attached.

SITE VISIT

On my behalf, Noriko Smallwood, a wildlife biologist with a Master's Degree from California State University Los Angeles, visited the site of the proposed project for 2.57 hours from 07:21 to 09:55 hours on 7 September 2023. She walked the site's perimeter, stopping to scan for wildlife with use of binoculars. Noriko recorded all species of vertebrate wildlife she detected, including those whose members flew over the site or were seen nearby, off the site. Animals of uncertain species identity were either omitted or, if possible, recorded to the Genus or higher taxonomic level.

Conditions were sunny with 3 mph south wind and 62-72° F. The site was covered by shrubs, annual grass, and patches of small trees (Photos 1–3).



Photos 1–3. Views of the project site, 24 August 2023. Photos by Noriko Smallwood.

Noriko detected 18 species of vertebrate wildlife at or adjacent to the project site, including 3 species with special status (Table 1). Noriko saw Allen’s hummingbird and Western gull (Photos 4 and 5), black phoebe (Photos 6 and 7), American kestrel (Photos 8-11), Anna’s hummingbird, red-crowned parrot, and house finch (Photos 12, 13, and 14), Eurasian collared dove, mourning dove, and band-tailed pigeon (Photos 15 and 16, and 17), Northern mocking bird and red-winged blackbird (Photos 18 and 19), Great

Basin fence lizard and orb weaver (Photos 20 and 21), among the other species listed in Table 1.

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

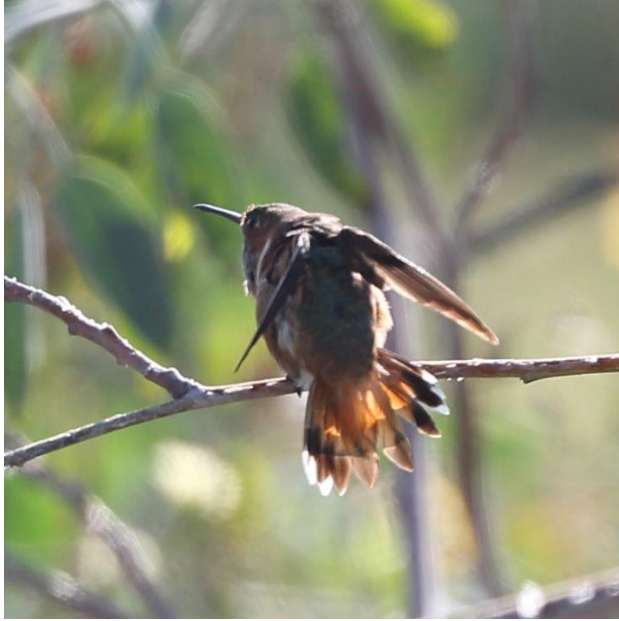


 Noriko Smallwood

Table 1. Species of wildlife Noriko observed during 2.57 hours of survey on 7 September 2023.

Common name	Species name	Status ¹	Notes
Great Basin fence lizard	<i>Sceloporus occidentalis longipes</i>		
Rock pigeon	<i>Columba livia</i>	Non-native	
Band-tailed pigeon	<i>Patagioenas fasciata</i>		
Eurasian collared-dove	<i>Streptopelia decaocto</i>	Non-native	
Mourning dove	<i>Zenaida macroura</i>		
Anna's hummingbird	<i>Calypte anna</i>		Foraged on site
Allen's hummingbird	<i>Selasphorus sasin</i>	BCC	Foraged on site
Western gull	<i>Larus occidentalis</i>	BCC	
American kestrel	<i>Falco sparverius</i>	BOP	3 on site, socialized, hunted, bathed in Rubio Wash
Red-crowned parrot	<i>Amazona viridigenalis</i>	Non-native	Many flew over
Black phoebe	<i>Sayornis nigricans</i>		Perched and foraged near Rubio Wash
American crow	<i>Corvus brachyrhynchos</i>		
Common raven	<i>Corvus corax</i>		
Northern mockingbird	<i>Mimus polyglottos</i>		
European starling	<i>Sturnus vulgaris</i>	Non-native	
House finch	<i>Haemorphous mexicanus</i>		
California towhee	<i>Melozone crissalis</i>		Just off site
Red-winged blackbird	<i>Agelaius phoeniceus</i>		Perched near Rubio Wash

¹ Listed as CFP = California Fully Protected (CFG Code 3511), BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, TWL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (California Fish and Game Code 3503.5).



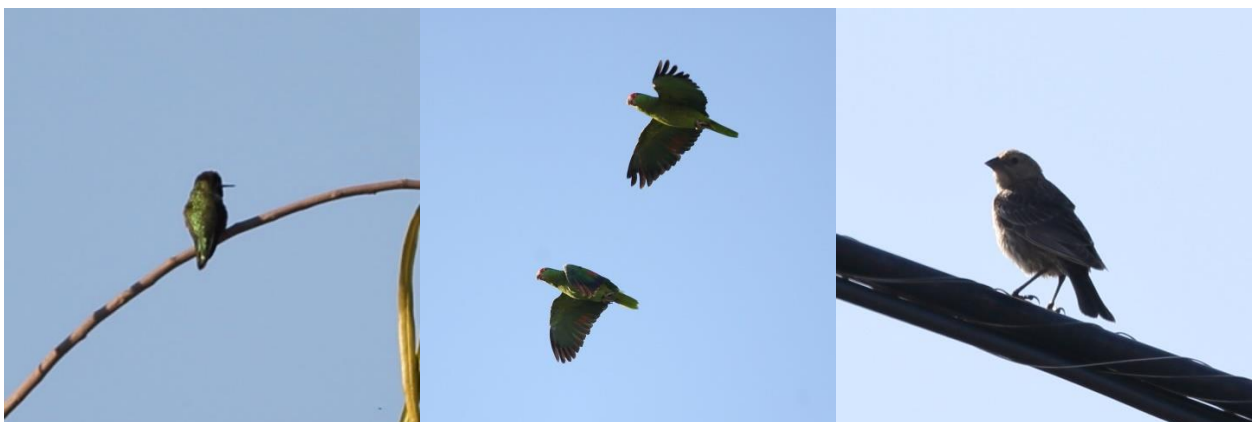
Photos 4 and 5. Allen's hummingbird (left), and Western gull (right) on the project site, 7 September 2023. Photos by Noriko Smallwood.



Photos 6 and 7. Black phoebes on the project site, 7 September 2023. Photos by Noriko Smallwood.



Photo 8, 9, 10, and 11. American kestrels on the project site, 7 September 2023. Top left photo shows an American kestrel feeding on prey caught on site, and bottom right shows American kestrels bathing in Rubio Wash. Photos by Noriko Smallwood.



Photos 12, 13, and 14. Anna's hummingbird (left), red-crowned parrots (middle), and house finch (right) on the project site, 7 September 2023. Photos by Noriko Smallwood.



Photos 15, 16, and 17. Eurasian collared-dove (top left), mourning dove (top right), and band-tailed pigeon (bottom) on the project site, 7 September 2023. Photos by Noriko Smallwood.



Photos 18 and 19. Northern mockingbird just off the project site (left), and red-winged blackbird perched near Rubio Wash (right), 7 September 2023. Photos by Noriko Smallwood.

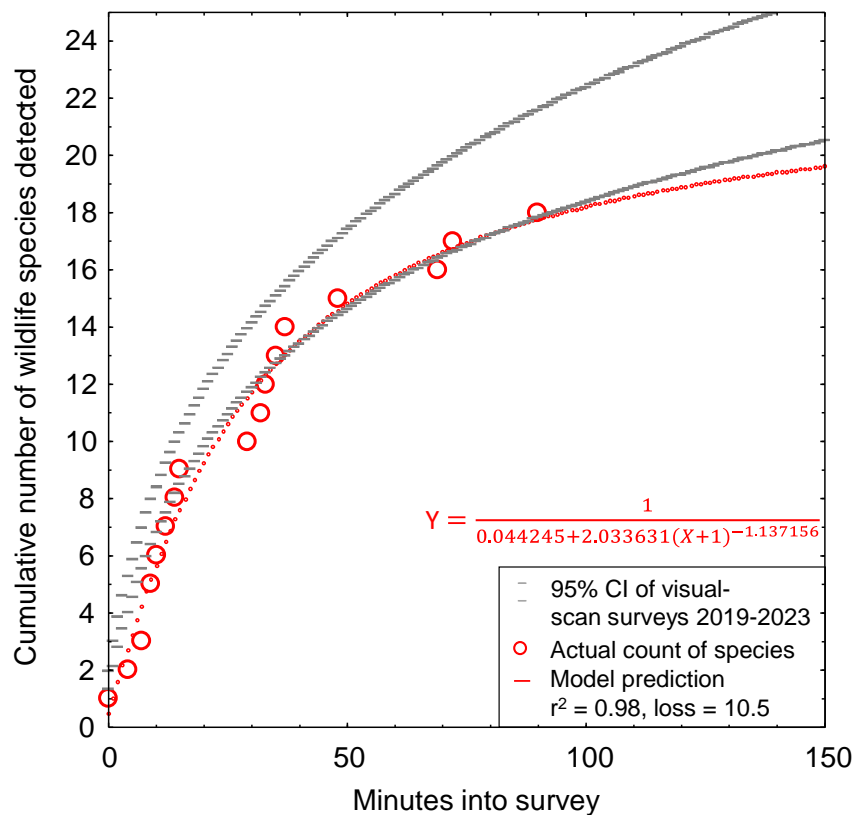


Photos 20 and 21. Great Basin fence lizard (left), and orb weaver (right) on the project site, 7 September 2023. Photos by Noriko Smallwood.

Noriko’s survey proves that the site is valuable to wildlife, including to multiple rare species of wildlife that are either listed as rare by state and federal resource agencies, or protected by California statute (Birds of Prey). The animals she saw at the site would not be there if the site was of no value. Noriko saw 13 species of birds that are also protected by the federal Migratory Bird Treaty Act and by California’s Migratory Bird Protection Act.

Noriko’s survey provides evidence of the project site’s habitat value to wildlife, but additional value can be inferred from her data. Reconnaissance surveys, such as the survey completed by Noriko, can be useful for confirming the presence of species that were detected, but they can also be useful for estimating the number of species that were not detected. One can model the pattern in species detections during a survey as a means to estimate the number of species that used the site but were undetected during the survey (Figure 1). In the case of Noriko’s survey of the project site, the pattern of the data are mostly within the 95% confidence interval estimated from similar surveys at 53 other sites of proposed projects in the region east of Los Angeles. In terms of wildlife use of the site, the site typifies the pattern of wildlife use we have observed in the area.

Figure 1. Actual (red circles) and predicted (red line) relationship between the number of vertebrate wildlife species detected and the elapsed survey time based on Noriko’s visual-scan survey on 7 September 2023, and compared to the mean and 95% CI of surveys at 53 sites she and I completed at proposed project sites in the region. Note that the relationship would differ if the survey was based on another method or during another season.



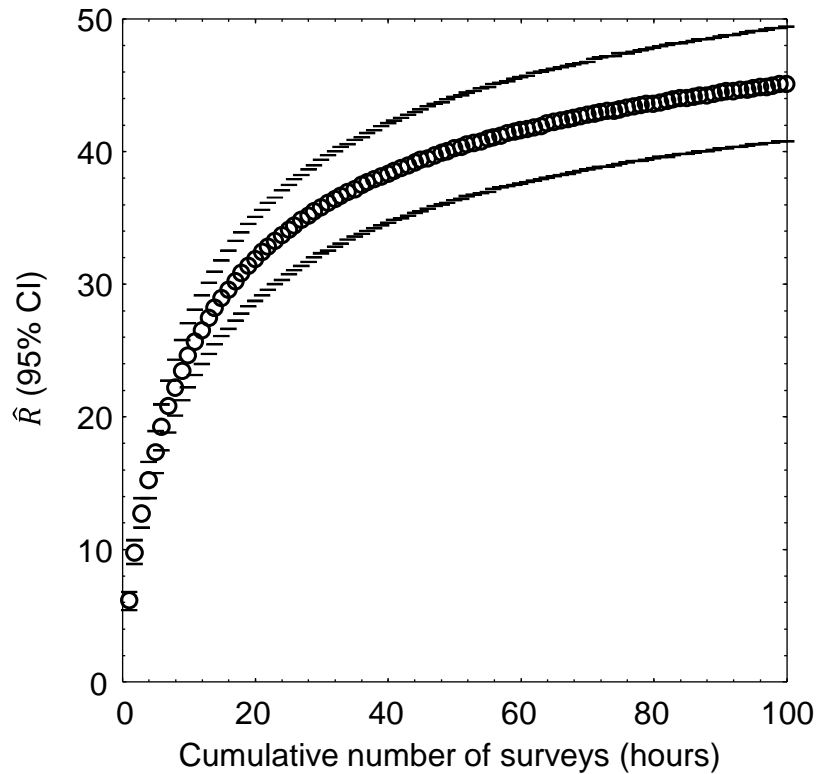
Whereas the above modeling approach is useful for more realistically representing the species richness of the site at the time of a survey, it cannot represent the species richness throughout the year or across multiple years because many species are seasonal or even multi-annual in their movement patterns and in their occupancy of habitat. More than one survey is needed to inventory the species that make use of a site over the period of a year or longer.

By use of an analytical bridge, a modeling effort applied to a large, robust data set from a research site can predict the number of vertebrate wildlife species that likely make use of the site over the longer term. As part of my research, I completed a much larger survey effort across 167 km² of annual grasslands of the Altamont Pass Wind Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods Noriko and I and other consulting biologists use for surveys at proposed project sites. At each of the 46 survey stations, I tallied new species detected with each sequential survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of the number of cumulative species detected regressed on hours of survey (number of surveys) at the station: $\hat{R} = \frac{1}{1/a+b \times (\text{Hours})^c}$, where \hat{R} represented cumulative species richness detected. The coefficients of determination, r^2 , of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data.

I projected the predictions of each model to thousands of hours to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57 after 11,857 hours of visual-scan surveys among the 46 stations of my research site. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I detected 11.5 species over the first 2.6 hours of surveys at my research site in the Altamont Pass (2.6 hours to match the 2.6 hours Noriko surveyed at the project site), which composed 20% of the predicted total number of species I would detect with a much larger survey effort at the research site. Given the example illustrated in Figure 1, the 18 species Noriko detected after her 2.6 hours of survey at the project site likely represented 20% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, she would likely detect $18/0.20 = 90$ species of vertebrate wildlife at the site. Assuming her ratio of special-status to non-special-status species was to hold with through the detections of all 90 predicted species, then continued surveys would eventually detect 15 special-status species of vertebrate wildlife.

Again, however, my prediction of 90 species of vertebrate wildlife, including 15 special-status species of vertebrate wildlife, is derived from daytime visual-scan surveys, and would not detect nocturnal mammals such as bats. The true number of species composing the wildlife community of the site must be larger. A reconnaissance survey should serve only as a starting point toward characterization of a site's wildlife community, but it certainly cannot alone inform of the inventory of species that use the site. More surveys are needed to obtain a true inventory of the wildlife at the site.

Figure 2. Mean (95% CI) predicted wildlife species richness, \hat{R} , as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019. Note that the location of the study is largely irrelevant to the utility of the graph to the interpretation of survey outcomes at the project site. It is the pattern in the data that is relevant, because the pattern is typical of the pattern seen elsewhere.



Considering the number of species of wildlife Noriko detected during a brief reconnaissance survey, and considering the number remaining to be detected by a more rigorous survey effort, as inferred from the pattern in Noriko’s data, it is my opinion that the site provides considerable habitat value to wildlife, and that the IS/MND has failed to complete the surveys that would be needed to characterize this value. A fair argument can be made for the need to prepare an EIR to appropriately characterize the existing environmental setting of the site of the proposed project.

EXISTING ENVIRONMENTAL SETTING

The first step in analysis of potential project impacts to biological resources is to accurately characterize the existing environmental setting, including the biological species that use the site, their relative abundances, how they use the site, key ecological relationships, and known and ongoing threats to those species with special status. A reasonably accurate characterization of the environmental setting can provide the basis for determining whether the site holds habitat value to wildlife, as well as a baseline against which to analyze potential project impacts. For these reasons, characterization of the environmental setting, including the project’s site’s regional setting, is one of CEQA’s essential analytical steps. Methods to achieve this first step typically include (1) surveys of the site for biological resources, and (2) reviews of literature, databases and local experts for documented occurrences of special-status species. In the case of this project, these essential steps remain grossly incomplete and misleading.

Environmental Setting informed by Field Surveys

To CEQA's primary objective to disclose potential environmental impacts of a proposed project, the analysis should be informed of which biological species are known to occur at the proposed project site, which special-status species are likely to occur, as well as the limitations of the survey effort directed to the site. Analysts need this information to characterize the environmental setting as a basis for opining on, or predicting, potential project impacts to biological resources.

Based on my reading of the IS/MND, the City of San Gabriel did not have the site of the proposed project surveyed by wildlife biologists. The only survey by any type of biologist was completed by an arborist. An arborist is not a wildlife biologist, and would be unqualified to survey the site as a wildlife biologist.

The IS/MND's conclusions about the use of the site by wildlife are unfounded and misleading. According to the IS/MND (page 33), "the project site ... is currently a vacant dirt lot with low-lying shrubs, weeds, and non-native grasslands scattered throughout the Project Site." But this is not how a wildlife biologist would characterize the site, which cannot be simultaneously a vacant dirt lot and also covered by vegetation. Vegetation grows on soil, not dirt, and that the site is covered by vegetation and not vacant is obvious in Photos 1–3.

According to the IS/MND (page 33), "No species that are identified as candidate, sensitive, or special-status species are known to exist in the local vicinity due to urbanized conditions." Having not surveyed the site, the City could not know which species occur at the site. And in fact, Noriko found three special-status species of wildlife on the project site after only a brief reconnaissance survey.

The IS/MND (page 33) also concludes, "the minimal on-site vegetation (i.e., shrubs, and nonnative weeds) does not provide suitable nesting habitat for migratory birds." However, this conclusion lacks supporting evidence and is inconsistent with my experience with nesting by birds. In fact, this past breeding season I surveyed a similar site that was surrounded by residential development in Rancho Cordova, California. I surveyed the site 30 times from March through August to identify all of the nest sites that I could, coming to a total density of 14.38 bird nests per acre on the portion of the study area that was composed of annual grassland with a scattering of trees, similar to the project site. Applying the total nest density I found in Rancho Cordova to the 2.9 acres of the project site, I predict the project site supports 42 bird nests. It is possible that my predicted number of nests is too many, but the IS/MND's conclusion of no nests is not credible.

The IS/MND is also inconsistent in its conclusions, indicative of bias. One of the IS/MND's conclusions, as noted in the preceding paragraph, is that "the minimal on-site vegetation (i.e., shrubs, and nonnative weeds) does not provide suitable nesting habitat for migratory birds." On the very next page, the IS/MND concludes that because "the Project would require removal and encroachment into trees that could provide nesting habitat for migratory birds, impacts would potentially be significant."

Environmental Setting informed by Desktop Review

The purpose of literature and database review and of consulting with local experts is to inform the field survey, and to augment interpretation of its outcome. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and migration flight paths.

No desktop review has been completed for the proposed project. The lack of a desktop review for avian flight paths and for special-status species likely to occur at the project site leaves the City of San Gabriel uninformed of potential project impacts to wildlife.

In my assessment based on database review, 118 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 2). Of these 118 species, 89 are birds that are capable of flying within the atmosphere of the project site and would be vulnerable to collision with the buildings or with loss of energy caused by the need to circumnavigate the buildings. Of the 118 special-status species of wildlife, 3 were conformed on the project site by Noriko's survey, 35 (30%) have been documented within 1.5 miles of the site ('Very close'), 29 (25%) within 1.5 and 4 miles ('Nearby'), and another 39 (33%) within 4 to 30 miles ('In region'). More than half (67%) of the species in Table 2 have been reportedly seen within 4 miles of the project site. It is reasonable to conclude, therefore, that the site, including its airspace, carries considerable potential for supporting many special-status species of wildlife based on proximity of recorded occurrences.

A fair argument can be made for the need to prepare an EIR to appropriately characterize the existing environmental setting of the site of the proposed project.

BIOLOGICAL IMPACTS ASSESSMENT

Determination of occurrence likelihoods of special-status species is not, in and of itself, an analysis of potential project impacts. An impacts analysis should consider whether and how a proposed project would affect members of a species, larger demographic units of the species, or the whole of a species. In the following, I analyze several types of impacts likely to result from the project, one of which is unsoundly analyzed and the others not analyzed in the IS/MND.

Table 2. Occurrence likelihoods of special-status bird species at or near the proposed project site, according to eBird/iNaturalist records (<https://eBird.org>, <https://www.inaturalist.org>) and on-site survey findings, where ‘Very close’ indicates within 1.5 miles of the site, “nearby” indicates within 1.5 and 4 miles, and “in region” indicates within 4 and 30 miles, and ‘in range’ means the species’ geographic range overlaps the site. Entries in bold font indicate those species detected by Noriko Smallwood during her reconnaissance survey.

Common name	Species name	Status ¹	Database records, Site visit
Monarch	<i>Danaus plexippus</i>	FC	Very close
Crotch’s bumble bee	<i>Bombus crotchii</i>	CCE	Nearby
Western pond turtle	<i>Emys marmorata</i>	SSC	In region
Blainville’s horned lizard	<i>Phrynosoma blainvillii</i>	SSC	In region
Coastal whiptail	<i>Aspidoscelis tigris stejnegeri</i>	SSC	In region
San Diegan legless lizard	<i>Anniella stebbinsi</i>	SSC	In region
Coast patch-nosed snake	<i>Salvadora hexalepis virgultea</i>	SSC	In region
Two-striped gartersnake	<i>Thamnophis hammondi</i>	SSC	In region
South coast gartersnake	<i>Thamnophis sirtalis pop. 1</i>	SSC	In range
Fulvous whistling-duck	<i>Dendrocygna bicolor</i>	SSC1	In region
Brant	<i>Branta bernicla</i>	SSC2	In region
Cackling goose (Aleutian)	<i>Branta hutchinsii leucopareia</i>	WL	Very close
Redhead	<i>Aythya americana</i>	SSC2	Nearby
Western grebe	<i>Aechmophorus occidentalis</i>	BCC	Very close
Clark’s grebe	<i>Aechmophorus clarkii</i>	BCC	In region
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FT, CE, BCC	In region
Black swift	<i>Cypseloides niger</i>	SSC3, BCC	Nearby
Vaux’s swift	<i>Chaetura vauxi</i>	SSC2, BCC	Very close
Costa’s hummingbird	<i>Calypte costae</i>	BCC	Very close
Rufous hummingbird	<i>Selasphorus rufus</i>	BCC	Very close
Allen’s hummingbird	<i>Selasphorus sasin</i>	BCC	On site
Snowy plover	<i>Charadrius nivosus</i>	BCC	Nearby
Whimbrel ²	<i>Numenius phaeopus</i>	BCC	Nearby
Long-billed curlew	<i>Numenius americanus</i>	WL	Very close
Marbled godwit	<i>Limosa fedoa</i>	BCC	In region
Red knot (Pacific)	<i>Calidris canutus</i>	BCC	In region
Short-billed dowitcher	<i>Limnodromus griseus</i>	BCC	In region
Willet	<i>Tringa semipalmata</i>	BCC	In region
American avocet ²	<i>Recurvirostra americana</i>	BCC	Nearby
Laughing gull	<i>Leucophaeus atricilla</i>	WL	In region
Heermann’s gull	<i>Larus heermanni</i>	BCC	In region
Western gull	<i>Larus occidentalis</i>	BCC	On site
California gull	<i>Larus californicus</i>	BCC, WL	Very close
California least tern	<i>Sternula antillarum browni</i>	FE, CE, FP	In region
Black tern	<i>Chlidonias niger</i>	SSC2, BCC	In region

Common name	Species name	Status¹	Database records, Site visit
Elegant tern	<i>Thalasseus elegans</i>	BCC, WL	In region
Black skimmer	<i>Rynchops niger</i>	BCC, SSC3	In region
Common loon	<i>Gavia immer</i>	SSC	Nearby
Double-crested cormorant	<i>Phalacrocorax auritus</i>	WL	Very close
American white pelican	<i>Pelicanus erythrorhynchos</i>	SSC1, BCC	Very close
California brown pelican	<i>Pelecanus occidentalis californicus</i>	FP	Nearby
Least bittern	<i>Ixobrychus exilis</i>	SSC2	In region
White-faced ibis	<i>Plegadis chihi</i>	WL	Nearby
Turkey vulture	<i>Cathartes aura</i>	BOP	Very close
Osprey	<i>Pandion haliaetus</i>	WL, BOP	Very close
White-tailed kite	<i>Elanus leucurus</i>	CFP, BOP	Nearby
Golden eagle	<i>Aquila chrysaetos</i>	BGEPA, CFP, BOP, WL	In region
Northern harrier	<i>Circus cyaneus</i>	BCC, SSC3, BOP	Very close
Sharp-shinned hawk	<i>Accipiter striatus</i>	WL, BOP	Very close
Cooper's hawk	<i>Accipiter cooperii</i>	WL, BOP	Very close
Bald eagle	<i>Haliaeetus leucocephalus</i>	CE, BGEPA, CFP	Very close
Red-shouldered hawk	<i>Buteo lineatus</i>	BOP	Very close
Swainson's hawk	<i>Buteo swainsoni</i>	CT, BOP	Very close
Red-tailed hawk	<i>Buteo jamaicensis</i>	BOP	Very close
Ferruginous hawk	<i>Buteo regalis</i>	WL, BOP	Nearby
Zone-tailed hawk	<i>Buteo albonotatus</i>	BOP	Nearby
Harris' hawk	<i>Parabuteo unicinctus</i>	WL, BOP	In region
Rough-legged hawk	<i>Buteo lagopus</i>	BOP	In region
Barn owl	<i>Tyto alba</i>	BOP	Nearby
Western screech-owl	<i>Megascops kennicotti</i>	BOP	Nearby
Great horned owl	<i>Bubo virginianus</i>	BOP	Very close
Burrowing owl	<i>Athene cunicularia</i>	BCC, SSC2, BOP	In region
Long-eared owl	<i>Asio otus</i>	BCC, SSC3, BOP	In region
Short-eared owl	<i>Asia flammeus</i>	BCC, SSC3, BOP	In region
Lewis's woodpecker	<i>Melanerpes lewis</i>	BCC	Very close
Nuttall's woodpecker	<i>Picoides nuttallii</i>	BCC	Very close
American kestrel	<i>Falco sparverius</i>	BOP	On site
Merlin	<i>Falco columbarius</i>	WL, BOP	Very close
Peregrine falcon	<i>Falco peregrinus</i>	CFP, BOP	Very close
Prairie falcon	<i>Falco mexicanus</i>	WL, BOP	In region
Olive-sided flycatcher	<i>Contopus cooperi</i>	BCC, SSC2	Very close
Willow flycatcher	<i>Empidonax traillii</i>	CE	Very close
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE, CE	In region
Vermilion flycatcher	<i>Pyrocephalus rubinus</i>	SSC2	Very close

Common name	Species name	Status¹	Database records, Site visit
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE, CE	Nearby
Loggerhead shrike	<i>Lanius ludovicianus</i>	SSC2	Nearby
Oak titmouse	<i>Baeolophus inornatus</i>	BCC	Very close
California horned lark	<i>Eremophila alpestris actia</i>	WL	Nearby
Bank swallow	<i>Riparia riparia</i>	CT	Nearby
Purple martin	<i>Progne subis</i>	SSC2	Nearby
Wrentit	<i>Chamaea fasciata</i>	BCC	Very close
California gnatcatcher	<i>Polioptila c. californica</i>	FT, SSC2	Nearby
California thrasher	<i>Toxostoma redivivum</i>	BCC	Very close
Cassin's finch	<i>Haemorhous cassinii</i>	BCC	Nearby
Lawrence's goldfinch	<i>Spinus lawrencei</i>	BCC	Very close
Grasshopper sparrow	<i>Ammodramus savannarum</i>	SSC2	In region
Black-chinned sparrow	<i>Spizella atrogularis</i>	BCC	Very close
Gray-headed junco	<i>Junco hyemalis caniceps</i>	WL	Nearby
Bell's sparrow	<i>Amphispiza b. belli</i>	WL	In region
Southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	WL	Nearby
Yellow-breasted chat	<i>Icteria virens</i>	SSC3	Nearby
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC3	Very close
Bullock's oriole	<i>Icterus bullockii</i>	BCC	Very close
Tricolored blackbird	<i>Agelaius tricolor</i>	CT, BCC, SSC1	In region
Lucy's warbler	<i>Leiothlypis luciae</i>	SSC3, BCC	Nearby
Virginia's warbler	<i>Leiothlypis virginiae</i>	WL, BCC	In region
Yellow warbler	<i>Setophaga petechia</i>	SSC2	Very close
Summer tanager	<i>Piranga rubra</i>	SSC1	Nearby
Pallid bat	<i>Antrozous pallidus</i>	SSC, WBWG:H	In range
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	SSC, WBWG:H	In range
Canyon bat	<i>Parastrellus hesperus</i>	WBWG:L	In region
Big brown bat	<i>Episticus fuscus</i>	WBWG:L	Nearby
Silver-haired bat	<i>Lasionycteris noctivagans</i>	WBWG:M	In region
Spotted bat	<i>Euderma maculatum</i>	SSC, WBWG:H	In range
Hoary bat	<i>Lasiurus cinereus</i>	WBWG:M	Nearby
Western yellow bat	<i>Lasiurus xanthinus</i>	SSC, WBWG:H	In range
Western small-footed myotis	<i>Myotis cililabrum</i>	WBWG:M	In range
Miller's myotis	<i>Myotis evotis</i>	WBWG:M	In range
Little brown myotis	<i>Myotis lucifugus</i>	WBWG:M	In region
Fringed myotis	<i>Myotis thysanodes</i>	WBWG:H	In range
Long-legged myotis	<i>Myotis volans</i>	WBWG:H	In range
Yuma myotis	<i>Myotis yumanensis</i>	WBWG:LM	In region
California myotis	<i>Myotis californicus</i>	WBWG:L	In region

Common name	Species name	Status¹	Database records, Site visit
Western mastiff bat	<i>Eumops perotis</i>	SSC, WBWG:H	In region
Mexican free-tailed bat	<i>Tadarida brasiliensis</i>	WBWG:L	Nearby
San Diego black-tailed jackrabbit	<i>Lepus californicus bennettii</i>	SSC	In range
Los Angeles pocket mouse	<i>Perognathus longimembris brevinasus</i>	SSC	In range
Southern grasshopper mouse	<i>Onychomys torridus ramona</i>	SSC	In range

¹ Listed as FT or FE = federal threatened or endangered, FC = federal candidate for listing, BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, CT or CE = California threatened or endangered, CCT or CCE = Candidate California threatened or endangered, CFP = California Fully Protected (California Fish and Game Code 3511), SSC = California Species of Special Concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent), SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively (Shuford and Gardali 2008), WL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (CFG Code 3503.5), and WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H).

HABITAT LOSS

The IS/MND analysis is flawed regarding the site's capacity to support special-status species. The project area has undergone severe habitat fragmentation, which is a process widely believed to pose the greatest threat to wildlife conservation (Smallwood 2015). The project would contribute further to habitat fragmentation in an environmental setting in which wildlife would be devastated by the loss of one of the region's last patches of naturally-covered open space. Habitat fragmentation and habitat loss have been recognized as the most likely leading causes of a documented 29% decline in overall bird abundance across North America over the last 48 years (Rosenberg et al. 2019). Habitat loss not only results in the immediate numerical decline of wildlife, but it also results in permanent loss of productive capacity. All this said, the very late stage of habitat fragmentation represented at the project site warrants concern, but the IS/MND expresses no concern over the project's contribution to habitat fragmentation.

In the case of birds, two methods exist for estimating the loss of productive capacity that would be caused by the project. One method would involve surveys to count the number of bird nests and chicks produced. Such counts would need to be made in the nesting season, but City of San Gabriel completed no bird surveys. The alternative method is to estimate productive capacity based on what is known of total nest density elsewhere. Two study sites in grassland/wetland/woodland complexes had total bird nesting densities of 32.8 and 35.8 nests per acre (Young 1948, Yahner 1982) for an average 34.3 nests per acre. To acquire a total nest density closer to conditions in California, I surveyed a 12.74-acre site in Rancho Cordova 30 times from March through the first half

of August. Total nest density of birds was 14.38 nests per acre on the portion of the study area that was composed of annual grassland with a scattering of trees. Applying the total nest density I found in Rancho Cordova to the 2.9 acres of the project site, I predict the project site supports 42 bird nests.

The loss of 42 nest sites of birds would qualify as a significant project impact that has not been quantitatively addressed in the IS/MND. But the impact would not end with the immediate loss of nest sites as nest substrate is removed and foraging grounds graded in preparation for impervious surfaces. The reproductive capacity of the site would be lost. The average number of fledglings per nest in Young's (1948) study was 2.9. Assuming Young's (1948) study site typifies bird productivity, the project would prevent the production of 122 fledglings per year. Assuming an average bird generation time of 5 years, the lost capacity of both breeders and annual fledgling production can be estimated from an equation in Smallwood (2022): $\{(nests/year \times chicks/nest \times number\ of\ years) + (2\ adults/nest \times nests/year) \times (number\ of\ years \div years/generation)\} \div (number\ of\ years) = 139\ birds\ per\ year\ denied\ to\ California.$ At least a fair argument can be made for the need to prepare an EIR to appropriately analyze the project's impacts to wildlife caused by habitat loss and habitat fragmentation.

WILDLIFE MOVEMENT

The IS/MND's analysis of whether the project would interfere with wildlife movement in the region is flawed. At page 33, the IS/MND explains, "The Project Site is surrounded on all sides by existing urban uses. There are no areas within the Project vicinity which could function as a wildlife corridor or nursery site for native and migratory wildlife." Besides its conclusory foundation, the analysis is flawed because it relies on a false CEQA standard. The primary phrase of the CEQA standard goes to wildlife movement regardless of whether the movement is channeled by a corridor. A site such as the proposed project site is critically important for wildlife movement because it composes an increasingly diminishing area of open space within a growing expanse of anthropogenic uses, forcing more species of volant wildlife to use the site for stopover and staging during migration, dispersal, and home range patrol (Warnock 2010, Taylor et al. 2011, Runge et al. 2014). The project would cut wildlife off from one of the last remaining stopover and staging opportunities in the project area, forcing volant wildlife to travel even farther between remaining stopover sites. This impact would be significant.

An additional flaw is the IS/MND's neglect of the Rubio Wash, which is a feature likely to be followed by wildlife moving through the region. American kestrels certainly make use of it (Photo 1), and species such as western gull likely fly along it daily.

BIRD-WINDOW COLLISIONS

Considering the project would add three buildings including one that would be 6 stories tall, along with many large glass windows on the building's facades, the IS/MND neglects a large portion of habitat that is essential to many species. To understand this

part of their habitat, one must consider the definition of habitat, which is a species' use of the environment (Hall et al. 1997, Smallwood 2002). The gaseous atmosphere, or aerosphere, is a principal medium of life to volant animals such as birds (Davy et al. 2017, Diehl et al. 2017). The aerosphere is where birds and bats and other volant animals with wings migrate, disperse, forage, perform courtship and where some of them mate. Birds are some of the many types of animals that evolved wings as a morphological adaptation to thrive by moving through the medium of the aerosphere. The aerosphere is habitat. Indeed, an entire discipline of ecology has emerged to study this essential aspect of habitat – the discipline of aeroecology (Kunz et al. 2008).

Many special-status species of birds have been recorded at or near the aerosphere of the project site. My database review and Noriko's site visit indicate there are 89 special-status species of birds with potential to use the site's aerosphere (Table 2). Of these, 3 have been recorded on or over the project site, 34 within 1.5 miles of the site ('Very close'), 25 within 1.5 and 4 miles ('Nearby'), and another 27 within 4 to 30 miles ('In region'). The birds reported within all these distance domains from the project site can quickly fly those distances, so they would all be within short flights of the proposed project's windows.

Window collisions are often characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently by Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. The proposed project would impose windows in the airspace normally used by birds.

Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors. At Washington State University, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a three-story glass walkway (no fatality adjustments attempted). Prior to marking the windows to warn birds of the collision hazard, the collision rate was 84.7 per year. At that rate, and not attempting to adjust the fatality estimate for the proportion of fatalities not found, 4,574 birds were likely killed over the 54 years since the start of their study, and that's at a relatively small building façade. Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 54 years would have been about 14,270. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also, the basis of his fatality rate extension has changed greatly since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated

more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

By the time Loss et al. (2014) performed their effort to estimate annual USA bird-window fatalities, many more fatality monitoring studies had been reported or were underway. Loss et al. (2014) incorporated many more fatality rates based on scientific monitoring, and they were more careful about which fatality rates to include. However, they included estimates based on fatality monitoring by homeowners, which in one study were found to detect only 38% of the available window fatalities (Bracey et al. 2016). Loss et al. (2014) excluded all fatality records lacking a dead bird in hand, such as injured birds or feather or blood spots on windows. Loss et al.'s (2014) fatality metric was the number of fatalities per building (where in this context a building can include a house, low-rise, or high-rise structure), but they assumed that this metric was based on window collisions. Because most of the bird-window collision studies were limited to migration seasons, Loss et al. (2014) developed an admittedly assumption-laden correction factor for making annual estimates. Also, only 2 of the studies included adjustments for carcass persistence and searcher detection error, and it was unclear how and to what degree fatality rates were adjusted for these factors. Although Loss et al. (2014) attempted to account for some biases as well as for large sources of uncertainty mostly resulting from an opportunistic rather than systematic sampling data source, their estimated annual fatality rate across the USA was highly uncertain and vulnerable to multiple biases, most of which would have resulted in fatality estimates biased low.

In my review of bird-window collision monitoring, I found that the search radius around homes and buildings was very narrow, usually 2 meters. Based on my experience with bird collisions in other contexts, I would expect that a large portion of bird-window collision victims would end up farther than 2 m from the windows, especially when the windows are higher up on tall buildings. In my experience, searcher detection rates tend to be low for small birds deposited on ground with vegetation cover or woodchips or other types of organic matter. Also, vertebrate scavengers entrain on anthropogenic sources of mortality and quickly remove many of the carcasses, thereby preventing the fatality searcher from detecting these fatalities. Adjusting fatality rates for these factors – search radius bias, searcher detection error, and carcass persistence rates – would greatly increase nationwide estimates of bird-window collision fatalities.

Buildings can intercept many nocturnal migrants as well as birds flying in daylight. As mentioned above, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a four-story glass walkway at Washington State University (no adjustments attempted for undetected fatalities). Somerlot (2003) found 21 bird fatalities among 13 buildings on a university campus within only 61 days. Monitoring twice per week, Hager et al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142 bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of

fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48-day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project would result in many collision fatalities of birds.

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per m² of glass per year could be calculated and averaged (Johnson and Hudson 1976, O'Connell 2001, Somerlot 2003, Hager et al. 2008, Borden et al. 2010, Hager et al. 2013, Porter and Huang 2015, Parkins et al. 2015, Kahle et al. 2016, Ocampo-Peñuela et al. 2016, Sabo et al. 2016, Barton et al. 2017, Gomez-Moreno et al. 2018, Schneider et al. 2018, Loss et al. 2019, Brown et al. 2020, City of Portland Bureau of Environmental Services and Portland Audubon 2020, Riding et al. 2020). These study results averaged 0.073 bird deaths per m² of glass per year (95% CI: 0.042–0.102). This average and its 95% confidence interval provide a robust basis for predicting fatality rates at a proposed new project.

The IS/MND does not disclose the extent of glass windows on the proposed new buildings. However, based on the average ratio of square meters of window extent to square footage of floor space among 34 other California residential and mixed-use projects in my data base of experience, I estimate the project would add a total of about 6,496 m² of new glass windows.

Applying the mean fatality rate (above) to my estimate of 6,496 m² of glass in the project, I predict annual bird deaths of 475 (95% CI: 282–668). The vast majority of these deaths would be of birds protected under the Migratory Bird Treaty Act and under the recently revised California Fish and Game Code 3513, thus causing significant unmitigated impacts. Given the predicted level of bird-window collision mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts. There is at least a fair argument to be made for the need to prepare an EIR to appropriately analyze the impact of bird-glass collisions that might be caused by the project.

TRAFFIC IMPACTS TO WILDLIFE

The IS/MND neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 22–25), including along roads far from the project footprint. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Photo 22. *A Gambel's quail dashes across a road on 3 April 2021. Such road crossings are usually successful, but too often prove fatal to the animal. Photo by Noriko Smallwood.*



Photo 23. *Great-tailed grackle walks onto a rural road in Imperial County, 4 February 2022.*



Photo 24. *Mourning dove killed by vehicle on a California road. Photo by Noriko Smallwood, 21 June 2020.*





Photo 25. *Raccoon killed on Road 31 just east of Highway 505 in Solano County. Photo taken on 10 November 2018.*

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study next to Vasco Road (Brown et al. 2016). Brown et al.'s (2016) adjustment factors for carcass persistence resembled those of Santos et al. (2011). Also applying searcher detection rates from Brown et al. (2016), the adjusted total number of fatalities was estimated at 12,187 animals killed by traffic on the road. This fatality number over 1.25 years and 2.5 miles of road translates to 3,900 wild animals per mile per year. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 243,740 animals killed per 100 km of road per year, or 29 times that of Loss et al.'s (2014) upper bound estimate and 68 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,900 animals killed per mile along a county road in Contra Costa County. Two percent of the estimated number of fatalities were birds, and the balance was composed of 34% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 52.3% amphibians (large numbers of California tiger salamanders and California red-legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 11.7% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009), hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

Predicting project-generated traffic impacts to wildlife

The IS/MND does not report a prediction of annual vehicle miles traveled (VMT). Fortunately, I have some data from 5 other California residential projects for which I prepared expert comments. At these 5 other projects, the ratio of annual VMT to square footage of project floorspace was 36.28 (95% CI: 3.8–68.8). Applying this mean ratio to the project's floor space of 306,793 sf would predict 11,130,450 annual VMT.

During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks \times 2.5 miles \times 365 days/year \times 1.25 years = 22,242,187.5 vehicle miles per 12,187 wildlife fatalities, or 1,825 vehicle miles per fatality. This rate divided into my above-predicted annual VMT would predict 6,099 vertebrate wildlife fatalities per year. However, the project area is not as wild as the environment along Vasco Road, so a downward adjustment of the fatality prediction is warranted. Assuming the rate of fatalities in the project area would be only 10% of the rate quantified at Vasco Road, the predicted fatality rate would lessen to 610 annually.

Based on my analysis, the project-generated traffic would cause substantial, significant impacts to wildlife. The IS/MND does not address this potential impact, let alone propose to mitigate it. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project. Given the predicted level of project-generated, traffic-caused mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts. There is at least a fair argument to be made for the need to prepare a new EIR to appropriately analyze the impact of wildlife-automobile collisions resulting from project-generated traffic.

CUMULATIVE IMPACTS

The IS/MND presents a flawed analysis of cumulative impacts to biological resources. The IS/MND's analysis is essentially the following: "The impacts associated with these resource areas are localized, thus, would not result in cumulative impacts. Mitigation measures have been prepared for each of these environmental issue areas to reduce impacts to a less than significant level." This analysis implies two false standards for determining whether a project's impacts would be cumulatively considerable. The first false standard is that localized impacts do not contribute cumulatively to regional impacts. Nowhere in CEQA are cumulative impacts defined as impacts that must be larger than localized.

The second false standard is that a given project impact is cumulatively considerable only when it has not been fully mitigated at the project level. The IS/MND implies that cumulative impacts are really residual impacts left over by inadequate mitigation of project impacts. This notion of residual impacts being the source of cumulative impacts is inconsistent with CEQA's definition of cumulative effects. Individually mitigated projects do not negate the significance of cumulative impacts. If they did, then CEQA

would not require a cumulative effects analysis. To summarize, the IS/MND presents no cumulative effects analysis as defined in two ways by CEQA.

At least a fair argument can be made for the need to prepare a new EIR to appropriately analyze potential project contributions to cumulative impacts to wildlife in the City. To do this, ongoing development in the City needs to be examined for its contributions to habitat fragmentation and how this fragmentation is affecting wildlife movement in the region. It needs to examine the extent of glass on existing and planned buildings to predict the ongoing and future levels of bird-window collision mortality. And it needs to examine City-wide annual VMT and to what degree this VMT is contributing to wildlife-vehicle collision mortality.

MITIGATION MEASURES

MM BIO-1 Nesting Migratory Birds.

The IS/MND identifies the period 15 March – 1 September as the typical avian breeding season recognized by the State of California. It is not. The avian breeding season recognized by the California Department of Fish and Wildlife is 1 February through 15 September.

I concur that preconstruction surveys for nesting birds should be implemented. However, having performed nest surveys for many bird species, I can attest to the difficulty of finding nest sites. Birds are highly skilled at hiding their nests, because with the exception of a few species, those birds that fail to hide their nests would fail in their nest attempts due to predation. Loggerhead shrikes and burrowing owls, as examples, make efforts to fool human observers into thinking the birds' nests are located where they are not. Locating nest sites of these species and most others requires multiple surveys over long time periods to note behavior patterns that can lead the observer to nest sites. This is why the breeding-season survey protocols require multiple surveys spaced through much of the breeding season, such as for burrowing owls (CDFW 2012) and California gnatcatchers (USFWS 1997). None of the available survey protocols for breeding birds recommend surveys to be completed within only a few days, such as prior to construction. That this recommendation never appears in survey guidelines is because the notion that such a briefly conducted survey would detect more than a small fraction of nest sites is fantasy.

Preconstruction surveys should be performed for nesting birds, but not without first having completed detection surveys to inform where biologists can expect to find nests during their subsequent preconstruction surveys. Preconstruction surveys are only intended as last-minute, one-time salvage and rescue operations targeting readily detectable nests or individuals before they are crushed under heavy construction machinery. Because most special-status species are rare and cryptic, and because most bird species are expert at hiding their nests lest they get predated, most of their nests will not be detected by preconstruction surveys without prior support of detection surveys. For one thing, bird species vary in breeding phenology. For example, at a project site that I searched for nest attempts during this past breeding season, some bird

species had already produced fledglings and some species began re-nesting before other bird species had even initiated nesting. Locating all of the nests on site would require more effort than is committed during preconstruction surveys.

Regardless of whether construction timing avoids the nesting season or preconstruction surveys are completed, this measure would not reduce impacts to less-than-significant levels because the project would destroy the productive capacity of the birds that breed on the project site. For some species, there would be no other place remaining for the m to nest. Neither would the preconstruction surveys do anything to thwart or diminish the impacts of further habitat fragmentation.

Should the project go forward, I recommend that it be required of the preconstruction survey biologists to prepare a report of the methods and outcomes of preconstruction surveys. The report should be made available to the public.

RECOMMENDED MEASURES

Guidelines on Building Design to Minimize Bird-Window Collisions: If the project goes forward, it should at a minimum adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco. The American Bird Conservancy (ABC) produced an excellent set of guidelines recommending actions to: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007). The ABC document and both the New York and San Francisco documents provide excellent alerting of potential bird-collision hazards as well as many visual examples. The San Francisco Planning Department's (2011) building design guidelines are more comprehensive than those of New York City, but they could have gone further. For example, the San Francisco guidelines probably should have also covered scientific monitoring of impacts as well as compensatory mitigation for impacts that could not be avoided, minimized or reduced.

New research results inform of the efficacy of marking windows. Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Brown et al. (2020) reported an 84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. Many external and

internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015).

Van Doren et al. (2021) found that nocturnal migrants contributed most of the collision fatalities in their study, and the largest predictors of fatalities were peak migration and lit windows. Van Doren et al. (2021) predicted that a light-out mitigation measure could reduce bird-window collision mortality by 60%.

Monitoring and the use of compensatory mitigation should be incorporated at any new building project because the measures recommended in the available guidelines remain of uncertain efficacy, and even if these measures are effective, they will not reduce collision fatalities to zero. The only way to assess mitigation efficacy and to quantify post-construction fatalities is to monitor the project for fatalities.

The City of San Gabriel should follow the examples of other cities and formulate its own mitigation guidelines for analysis of potential impacts and for mitigating those impacts.

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by bird-window collisions and the project-generated road traffic in the region. I suggest that this mitigation can be directed toward funding research to identify fatality patterns and effective impact reduction measures such as reduced speed limits and wildlife under-crossings or overcrossings of particularly dangerous road segments. Compensatory mitigation can also be provided in the form of donations to wildlife rehabilitation facilities (see below).

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation ought also to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by collisions with the building's windows and with automobiles traveling to and from the building.

Landscaping: If the project goes forward, California native plant landscaping (i.e., chaparral, grassland, and locally appropriate scrub plants) should be considered to be used as opposed to landscaping with lawn and exotic shrubs. Native plants offer more structure, cover, food resources, and nesting substrate for wildlife than landscaping with lawn. Native plant landscaping has been shown to increase the abundance of arthropods which act as important sources of food for wildlife and are crucial for pollination and plant reproduction (Narango et al. 2017, Adams et al. 2020, Smallwood and Wood 2022.). Further, many endangered and threatened insects require native host plants for reproduction and migration, e.g., monarch butterfly. Around the world, landscaping with native plants over exotic plants increases the abundance and diversity of birds, and is particularly valuable to native birds (Lerman and Warren 2011, Burghardt et al. 2008, Berthon et al. 2021, Smallwood and Wood 2022). Landscaping with native plants is a way to maintain or to bring back some of the natural habitat and lessen the footprint of urbanization by acting as interconnected patches of habitat for wildlife (Goddard et al.

2009, Tallamy 2020). Lastly, not only does native plant landscaping benefit wildlife, it requires less water and maintenance than traditional landscaping with lawn and hedges.

Thank you for your consideration,



Shawn Smallwood, Ph.D.

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EXHIBIT B



Technical Consultation, Data Analysis and
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September 20, 2023

Marjan Abubo
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Subject: Comments on the Rubio Village Mixed-Use Project

Dear Mr. Abubo,

We have reviewed the August 2023 Initial Study and Mitigated Negative Declaration (“IS/MND”) for the Rubio Village Mixed-Use Project (“Project”) located in the City of San Gabriel (“City”). The Project proposes to construct 13,449-square-feet (“SF”) of commercial space, 101,891-SF of above-ground parking space, and 225 residential units on the 2.9-acre site.

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

Air Quality

Failure to Provide Complete CalEEMod Output Files

Land use development projects under the California Environmental Quality Act (“CEQA”) typically evaluate air quality impacts and calculate potential criteria air pollutant emissions using the California Emissions Estimator Model (“CalEEMod”).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 CEQA requires that such changes be

¹ “CalEEMod User’s Guide.” California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at*: <https://www.aqmd.gov/calceemod/user's-guide>.

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 used in calculating the Project’s air pollutant emissions and demonstrate which default values are changed. Justifications are provided for the selected values.

According to the IS/MND, CalEEMod Version 2022.1 is relied upon to estimate Project emissions (p. 25, Table 4.3-2). However, this poses a problem as the currently available version of CalEEMod 2022.1 is described as a “soft release” which fails to provide complete output files.² Specifically, the “User Changes to Default Data” table no longer provides the quantitative counterparts to the changes to the default values (see excerpt below) (Appendix B, pp. 120):

8. User Changes to Default Data

Screen	Justification
Land Use	adjusted according to project data
Construction: Construction Phases	adjusted according to project construction schedule
Operations: Hearths	no fireplaces and wood stoves
Operations: Vehicle Data	Traffic Study
Construction: Off-Road Equipment	—

However, previous CalEEMod Versions, such as 2020.4.0, include the specific numeric changes to the model’s default values (see example excerpt below):

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	167.00
tblConstructionPhase	PhaseEndDate	11/22/2023	8/25/2023
tblConstructionPhase	PhaseEndDate	9/27/2023	6/30/2023
tblConstructionPhase	PhaseEndDate	10/25/2023	7/28/2023
tblConstructionPhase	PhaseStartDate	10/26/2023	7/29/2023
tblConstructionPhase	PhaseStartDate	9/28/2023	7/1/2023
tblLandUse	LandUseSquareFeet	160,000.00	160,371.00
tblLandUse	LandUseSquareFeet	119,000.00	41,155.00
tblLandUse	LotAcreage	3.67	3.68
tblLandUse	LotAcreage	2.73	2.74

The output files associated with CalEEMod Version 2022.1 fail to present the exact parameters used to calculate Project emissions. To remedy this issue, the IS/MND should have provided access to the model’s “.JSON” output files, which allow third parties to review the model’s revised input parameters.³ Without access to the complete output files, including the specific numeric changes to the default values, we cannot verify that the IS/MND’s air modeling and subsequent analysis is an accurate reflection of the proposed Project. As a result, an EIR should be prepared to include an updated air

² “CalEEMod California Emissions Estimator Model Soft Release.” California Air Pollution Control Officers Association (CAPCOA), 2022, available at: <https://caleemod.com/>.

³ “Video Tutorials for CalEEMod Version 2022.1.” California Air Pollution Control Officers Association (CAPCOA), May 2022, available at: <https://www.caleemod.com/tutorials>.

quality analysis that correctly provides the complete output files for CalEEMod Version 2022.1, or includes an updated air model using an older release of CalEEMod.⁴

Unsubstantiated Input Parameters Used to Estimate Project Emissions

As previously discussed, the IS/MND relies on CalEEMod Version 2022.1 to estimate the Project’s air quality emissions and fails to provide the complete output files required to adequately evaluate model’s analysis (p. 25, Table 4.3-2). Regardless, when reviewing the Project’s CalEEMod output files, provided in the Air Quality Technical Memorandum (“AQ Memo”) included as Appendix B to the IS/MND, we were able to identify several model inputs that are inconsistent with information disclosed in the IS/MND. As such, 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 construction and operation of the Project will have on local and regional air quality.

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the “District at Rubidoux - Phase 1” model includes changes to the default construction schedule (see excerpt below) (Appendix B, pp. 120).

8. User Changes to Default Data

Screen	Justification
Land Use	adjusted according to project data
Construction: Construction Phases	adjusted according to project construction schedule
Operations: Hearths	no fireplaces and wood stoves
Operations: Vehicle Data	Traffic Study
Construction: Off-Road Equipment	—

As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix B, pp. 99):

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase
Site Preparation	Site Preparation	2/21/2024	5/5/2024	5.00	53.0
Grading	Grading	5/1/2024	7/2/2024	5.00	45.0
Foundations	Building Construction	5/6/2024	7/5/2024	5.00	45.0
Building Construction	Building Construction	7/6/2024	5/6/2025	5.00	217
Paving	Paving	10/2/2024	2/10/2026	5.00	355
Architectural Coating	Architectural Coating	4/9/2025	1/13/2026	5.00	200

The CalEEMod User’s Guide requires any changes to model defaults be justified.⁵ As demonstrated above in the “User Changes to Default Data” table, the justification provided for these changes is:

“adjusted according to project construction schedule” (Appendix B, pp. 120).

Regarding the Project’s anticipated construction duration, the IS/MND states:

⁴ “CalEEMod Version 2020.4.0.” California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <http://www.aqmd.gov/caleemod/download-model>.

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. 1, 14.

“Project construction is anticipated to occur as a single-phase, lasting approximately 25 months, beginning as early as February 2024 and ending as early as February 2026” (p. 12).

However, the changes to the individual construction phase lengths remain unsubstantiated. While the IS/MND states that the total length of Project construction would be 25 months, the IS/MND fails to substantiate the individual construction phase lengths. Until specific evidence is provided, the model should have included proportionately altered individual phase lengths to match the proposed construction duration of 25 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).⁶

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.

Unsubstantiated Reduction to Gas Fireplaces

Review of the CalEEMod output files demonstrates that the “District at Rubidoux - Phase 1” model includes changes to the default gas fireplace values (see excerpt below) (Appendix B, pp. 120).

⁶ “CalEEMod User’s Guide.” California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.aqmd.gov/cal-eemod/user's-guide>, p. 32.

8. User Changes to Default Data

Screen	Justification
Land Use	adjusted according to project data
Construction: Construction Phases	adjusted according to project construction schedule
Operations: Hearths	no fireplaces and wood stoves
Operations: Vehicle Data	Traffic Study
Construction: Off-Road Equipment	—

As a result of these changes, the number of gas fire places is set to zero (see excerpt below) (Appendix B, pp. 107).

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	225
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

As demonstrated in the excerpt above, the model assumes that the Project would not include any gas fireplaces. 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 this assumption is:

“no fireplaces and wood stoves” (Appendix B, pp. 120).

However, this justification is insufficient, as the model cannot simply assume that no fireplaces would be included in the Project. 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.”⁸

Here, as the IS/MND fails to provide substantial evidence to support the revised number of gas fireplaces, we cannot verify the reduction.

This unsubstantiated assumption presents an issue, as CalEEMod uses the number of gas fireplaces to calculate the Project’s area-source operational emissions.⁹ By including an unsubstantiated reduction to

⁷ “CalEEMod User’s Guide.” California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.aqmd.gov/caleemod/user's-guide>, p. 1, 14.

⁸ “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.

⁹ “CalEEMod User’s Guide.” California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.aqmd.gov/caleemod/user's-guide>, p. 40.

the default gas fireplace values, the model may underestimate the Project’s area-source operational emissions and should not be relied upon to determine Project significance.

Underestimated Operational Vehicle Trips

According to the Traffic Impact Study (“TS”) provided as Appendix H to the IS/MND, the Project is expected to generate 1,442 daily vehicle trips (see excerpt below) (p. 15, Table 1).

TABLE 1 SUMMARY OF PROJECT TRIP GENERATION RUBIO VILLAGE PROJECT									
Land Use	ITE Code	Unit	Trip Generation Rates ¹						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Mid-Rise Residential w/ 1st floor Comm'l	231	DU	3.44	0.051	0.169	0.220	0.121	0.049	0.170
Strip Retail Plaza (<40k)	822	KSF	54.45	1.416	0.944	2.360	3.295	3.295	6.590
Fast Casual Restaurant	930	KSF	97.14	0.715	0.715	1.430	6.903	5.648	12.550
Trip Generation Estimates									
Land Use	Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Mid-Rise Residential w/ 1st floor Comm'l	225	DU	774	11	38	49	27	11	38
Strip Retail Plaza (<40k)	7.998	KSF	435	11	8	19	26	26	52
Fast Casual Restaurant	5.480	KSF	532	4	4	8	38	31	69
Total Before Internal Capture/Pass-by			1,741	26	50	76	91	68	159
Internal Capture (8% Daily, 8% AM, 47% PM)²			-139	-2	-4	-6	-43	-32	-75
Pass-By Reduction for Shopping Center (40% PM)³			-160	0	0	0	-5	-6	-11
Pass-By Reduction for Fast Casual Restaurant (44% PM)³			-215	0	0	0	-9	-7	-16
Total Project Trips			1,442	24	46	70	34	23	57
¹ Source: Institute of Transportation Engineers publication: <u>Trip Generation Manual</u> , 11th Edition ² See Internal Capture Worksheets ³ Source: Institute of Transportation Engineers (ITE) <u>Trip Generation Manual - Volume 1: User's Guide and Handbook</u> , 9th Edition									

As such, the Project’s model should have included trip rates that reflect the estimated number of average daily vehicle trips. However, review of the CalEEMod output files demonstrates that the “District at Rubidoux - Phase 1” model includes only 1,226 weekday, Saturday, and Sunday total daily vehicle trips (see excerpt below) (Appendix B, pp. 106).¹⁰

¹⁰ Calculated: 712 “Apartments Mid-Rise” daily trips + 240 “Strip Mall” daily trips + 274 High Turnover (Sit Down Restaurant) daily trips = 1,226 total daily trips.

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	712	712	712	259,909	4,191	4,191	4,191	1,529,670
Strip Mall	240	240	240	87,673	1,356	1,356	1,356	495,014
High Turnover (Sit Down Restaurant)	274	274	274	100,171	1,550	1,550	1,550	565,577
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

As demonstrated above, the “District at Rubidoux - Phase 1” total weekday, Saturday, and Sunday vehicle trips are each underestimated by 216-trips.¹¹ Consequently, the trip rates inputted into the model are underestimated and inconsistent with the information provided by the TS.

These inconsistencies present an issue, as CalEEMod uses the operational vehicle trip rates to calculate the emissions associated with the operational on-road vehicles.¹² By including underestimated operational daily vehicle trips, the model underestimates the Project’s mobile-source operational emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Construction Equipment Values

Review of the CalEEMod output files demonstrates that the “Laurel Tudor Detailed Report” model includes changes to the off-road construction equipment unit amounts (see excerpt below) (Appendix B, pp. 120).

8. User Changes to Default Data

Screen	Justification
Land Use	adjusted according to project data
Construction: Construction Phases	adjusted according to project construction schedule
Operations: Hearths	no fireplaces and wood stoves
Operations: Vehicle Data	Traffic Study
Construction: Off-Road Equipment	—

As previously mentioned, the CalEEMod User’s Guide requires any changes to model defaults be justified.¹³ As demonstrated above, the “User Entered Comments & Non-Default Data” table fails to provide any justification. Regardless, as a result of these changes, the model includes the following off-road construction table (see excerpt below) (Appendix B, pp. 101, 102):

¹¹ Calculated: 1,442 proposed daily weekday, Saturday, and Sunday trips – 1,226 modeled daily weekday, Saturday, and Sunday trips = 216 underestimated daily weekday, Saturday, and Sunday trips.

¹² “CalEEMod User’s Guide.” California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.aqmd.gov/caleemod/user's-guide>, p. 36.

¹³ “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

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Foundations	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Foundations	Cranes	Diesel	Average	1.00	7.00	367	0.29
Foundations	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Foundations	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Foundations	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

These changes remain unsupported as the IS/MND and associated documents fail to discuss the revisions to the construction off-road equipment assumptions whatsoever. Until the IS/MND provides an adequate source justifying the changes to the off-road construction equipment values, we cannot verify the changes.

These unsubstantiated changes present an issue, as CalEEMod uses the off-road equipment unit amounts, horsepower, and hours of use per day values to calculate the emissions associated with off-road construction equipment.¹⁴ By including unsubstantiated changes to the default off-road construction equipment values, the model may underestimate the Project’s construction-related emissions and should not be relied upon to determine Project significance.

Diesel Particulate Matter Emissions Inadequately Evaluated

The IS/MND concludes that the Project would have a less-than-significant health risk impact without conducting a quantified construction or operational health risk analysis (“HRA”). Regarding the health risk impacts associated with the Project, the IS/MND states:

“The Project would not involve the use, storage, or processing of carcinogenic or non-carcinogenic toxic air contaminants (TACs), and no significant toxic airborne emissions would result from Project operations. Project construction activities are subject to regional, State, and federal regulations and laws concerning toxic air pollutants that would protect sensitive

¹⁴ “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. 32

receptors from substantial concentrations of these emissions. Therefore, Project impacts concerning the release of TACs would be less than significant” (p. 29)

As demonstrated above, the IS/MND concludes that the Project would have a less than significant impact as Project construction and operation would not involve any TAC emissions. However, the IS/MND’s evaluation of the Project’s potential health risk impacts, as well as the subsequent less-than-significant impact conclusion, is incorrect for four reasons.

First, the use of a LST analysis to determine the health risk impacts posed to nearby, existing sensitive receptors as a result of the Project’s operational TAC emissions is incorrect. While the LST method assesses the impact of pollutants at a local level, it only evaluates impacts from criteria air pollutants. According to the *Final Localized Significance Threshold Methodology* document prepared by the South Coast Air Quality Management District (“SCAQMD”), LST analyses are only applicable to NO_x, CO, PM₁₀, and PM_{2.5} emissions, which are collectively referred to as criteria air pollutants.¹⁵ Because LST methods can only be applied to criteria air pollutants, they cannot be used to determine whether emissions from TACs, specifically Diesel Particulate Matter (“DPM”), a known human carcinogen, would result in a significant health risk impact to nearby sensitive receptors. As a result, health impacts during Project operation from exposure to TACs, such as DPM, were not analyzed, therefore leaving a gap in the IS/MND’s analysis.

Second, by failing to prepare a quantified construction and operational HRA, the Project is inconsistent with CEQA’s requirement to make “a reasonable effort to substantively connect a project’s air quality impacts to likely health consequences.”¹⁶ This poses a problem, as according to the IS/MND, construction of the Project would produce DPM emissions through the exhaust stacks of construction equipment over a duration of approximately 25 months (p. 24). According to the TS, the operation of the Project is anticipated to generate 1,442 daily vehicle trips, which would produce additional exhaust emissions and continue to expose nearby, existing sensitive receptors to DPM emissions (p. 15, Table 1). However, the IS/MND fails to evaluate the TAC emissions associated with Project construction and operation or indicate the concentrations at which such pollutants would trigger adverse health effects. Without making a reasonable effort to connect the Project’s TAC emissions to the potential health risks posed to nearby receptors, the IS/MND is inconsistent with CEQA’s requirement to correlate Project-generated emissions with potential adverse impacts on human health.

Third, the Office of Environmental Health Hazard Assessment (“OEHHA”), the organization responsible for providing guidance on conducting HRAs in California, released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015. This guidance document describes the types of projects that warrant the preparation of an HRA. Specifically,

¹⁵ “Final Localized Significance Threshold Methodology.” South Coast Air Quality Management District (SCAQMD), Revised July 2008, available at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf>.

¹⁶ “Sierra Club v. County of Fresno.” Supreme Court of California, December 2018, available at: <https://cegaportal.org/decisions/1907/Sierra%20Club%20v.%20County%20of%20Fresno.pdf>.

OEHHA recommends that all short-term projects lasting at least 2 months assess cancer risks.¹⁷ Additionally, according to OEHHA:

“Exposure from projects lasting more than 6 months should be evaluated for the duration of the project. In all cases, for assessing risk to residential receptors, the exposure should be assumed to start in the third trimester to allow for the use of the ASFs (OEHHA, 2009).”¹⁸

As the Project’s anticipated construction duration exceeds the 2-month and 6-month requirements set forth by OEHHA, construction of the Project meets the threshold warranting a quantified HRA under OEHHA guidance and should be evaluated for the entire 25-month construction period. Furthermore, OEHHA recommends that an exposure duration of 30 years should be used to estimate the individual cancer risk at the maximally exposed individual resident (“MEIR”).¹⁹ The IS/MND agrees that the Project lifetime can be assumed to operate for 30 years (p. 49). Therefore, operation of the Project also exceeds the 2-month and 6-month requirements set forth by OEHHA and should be evaluated for the entire 30-year residential exposure duration, as indicated by OEHHA guidance. These recommendations reflect the most recent state health risk policies, and as such, an EIR should be prepared to include an analysis of health risk impacts posed to nearby sensitive receptors from Project-generated DPM emissions.

Fourth, by claiming a less-than-significant impact without conducting a quantified construction or operational HRA for nearby, existing sensitive receptors, the IS/MND fails to compare the Project’s excess cancer risk to the SCAQMD’s specific numeric threshold of 10 in one million.²⁰ In accordance with the most relevant guidance, an assessment of the health risk posed to nearby, existing receptors as a result of Project construction and operation should be conducted.

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

¹⁷ “Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: <https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>, p. 8-18.

¹⁸ “Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: <https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>, p. 8-18.

¹⁹ “Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: <https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>, p. 2-4.

²⁰ “South Coast AQMD Air Quality Significance Thresholds.” SCAQMD, March 2023, available at: <https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25>.

otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

A handwritten signature in blue ink that reads "Matt Hagemann". The signature is fluid and cursive, with a long horizontal stroke at the end.

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

A handwritten signature in blue ink that reads "Paul Rosenfeld". The signature is cursive and clearly legible.

Paul E. Rosenfeld, Ph.D.

Attachment A: Matt Hagemann CV

Attachment B: Paul Rosenfeld CV



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**Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
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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 – 2014, 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 nationwide 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, Colorado.

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 representatives, 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., Fukunaga, 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 Clean up 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.



Technical Consultation, Data Analysis and
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Paul Rosenfeld, Ph.D.

Principal Environmental Chemist

Chemical Fate and Transport & Air Dispersion Modeling

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 H₂O 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 Aermol and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Presentations:

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

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

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

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

Rosenfeld, P.E. (April 19-23, 2009). Perfluorooctanoic Acid (PFOA) and Perfluorooctane 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 Florida, 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 Conference*. Lecture conducted from Indianapolis, Maryland.

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

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

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

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

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

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

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

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 2010) 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 Agrosiences, LLC, et al., Defendants
Cause No. 1923
Rosenfeld Deposition 11-17-2017

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

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

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

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilbert, 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
Jaeante 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

EXHIBIT C



INDOOR ENVIRONMENTAL ENGINEERING



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Date: September 14, 2023

To: Marjan Kris Abubo
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
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From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: Rubio Village Mixed-Use Project, San Gabriel, CA
(IEE File Reference: P-4749)

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/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).

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.

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 $22.4 \mu\text{g}/\text{m}^3$ (18.2 ppb) as compared to a median of $36 \mu\text{g}/\text{m}^3$ 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 $24.1 \mu\text{g}/\text{m}^3$, which is 33% lower than the $36 \mu\text{g}/\text{m}^3$ 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 the Rubio Village Mixed-Use Project, San Gabriel, CA A, the buildings consist of residential and commercial spaces.

The residential occupants will potentially have continuous exposure (e.g., 24 hours per day, 52 weeks per year). These exposures are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in residential construction.

Because these residences will be constructed with CARB Phase 2 Formaldehyde ATCM materials and be ventilated with the minimum code required amount of outdoor air, the indoor residential formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu\text{g}/\text{m}^3$ (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 $\mu\text{g}/\text{day}$ 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).

The employees of the commercial spaces are expected to experience significant indoor exposures (e.g., 40 hours per week, 50 weeks per year). These exposures for employees are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in offices, warehouses, residences and hotels.

Because the commercial spaces will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu\text{g}/\text{m}^3$ (Singer et. al., 2020)

Assuming that the commercial space employees work 8 hours per day and inhale 20 m³ of air per day, the formaldehyde dose per work-day is 161 µg/day.

Assuming that these employees work 5 days per week and 50 weeks per year for 45 years (start at age 20 and retire at age 65) the average 70-year lifetime formaldehyde daily dose is 70.9 µg/day.

This is 1.77 times the NSRL (OEHHA, 2017a) of 40 µg/day and represents a cancer risk of 17.7 per million, which exceeds the CEQA cancer risk of 10 per million. This impact should be analyzed in an environmental impact report (“EIR”), and the agency should impose all feasible mitigation measures to reduce this impact. Several feasible mitigation measures are discussed below and these and other measures should be analyzed in an EIR.

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.

Additionally, the SCAQMD’s Multiple Air Toxics Exposure Study (“MATES V”) identifies an existing cancer risk at the Project site of 467 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 that 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., 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., $\mu\text{g}/\text{m}^2\text{-h}$) 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 $31 \mu\text{g}/\text{m}^2\text{-h}$, but not the actual measured specific emission rate, which may be 3, 18, or $30 \mu\text{g}/\text{m}^2\text{-h}$. 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. $\mu\text{g/h}$) 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 ($\mu\text{g/m}^3$) from Equation 1 by dividing the total formaldehyde emission rates (i.e. $\mu\text{g/h}$) as determined in Step 4, by the design minimum outdoor air ventilation rate (m^3/h) for the IAQ Zone.

$$C_{in} = \frac{E_{total}}{Q_{oa}} \quad (\text{Equation 1})$$

where:

C_{in} = indoor formaldehyde concentration ($\mu\text{g/m}^3$)

E_{total} = total formaldehyde emission rate ($\mu\text{g/h}$) 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 Initial Study/Mitigated Negative Declaration - Rubio Village Mixed-Use Project (Kimley-Horn and Associates, 2023) the Project is close to roads with moderate to high traffic (e.g., San Gabriel Boulevard, East Live Oak Street, South Pine Street, East Broadway, East Las Tunas Boulevard, etc.).

No acoustic studies of the ambient noise levels have been prepared. 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 required. 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 Rubio Village Mixed-Use Project IS/MND (City of San Gabriel, August 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 467 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 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 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/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.

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 $\mu\text{g}/\text{m}^3$ (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 m³/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 ft² (0.7% of the floor area), or
Particle Board – 30 ft² (1.3% of the floor area), or
Hardwood Plywood – 54 ft² (2.4% of the floor area), or
Thin MDF – 46 ft² (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 that 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.

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*Making Conservation
a California Way of Life*

September 20, 2023

Samantha Tewart
City of San Gabriel
425 South Mission Drive
San Gabriel, CA 91776

RE: Rubio Village Mixed-Use Project
Mitigated Negative Declaration (MND)
SCH # 2023080591
Vic. LA-Multiple
GTS # 07-VEN-2023-04298

Dear Samantha Tewart:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above-referenced MND. The City of San Gabriel is proposing the Rubio Village Mixed-Use Project, an approximately 306,793 square foot site consisting of mixed-use residential and commercial development. The project would construct three new buildings of 225 multi-family units and 101,891 square feet of parking. The City of San Gabriel is the Lead Agency under the California Environmental Quality Act (CEQA).

3-1

As stated in the Transportation Section of the Initial Study, the project would not result in a conflict with a program, plan, ordinance, or policy addressing alternate modes of transportation facilities including transit, roadway, bicycle, and pedestrian facilities. The Project’s potential impacts would be less than significant, and no mitigation measures are necessary. Caltrans has the following comments applicable to the construction period only:

- Work with Caltrans Office of Permits, Multi-Modal Unit, for a designated truck route for construction trucks to transport construction equipment to and from the construction sites.
- Cover construction trucks with tarpaulin to avoid debris spillage onto State facilities.

3-2

As a reminder, any transportation of heavy construction equipment and/or materials that requires the use of oversized transport vehicles on State highways will need a Caltrans transportation permit. Caltrans recommends that the Project limit construction traffic to off-peak periods to minimize the potential impact on State facilities, if construction traffic

is expected to cause issues on any State facilities, please submit a construction traffic control plan detailing these issues for Caltrans' review.

↑ 3-2
cont

If you have any questions, please feel free to contact Jaden Oloresisimo, the project coordinator, at Jaden.Oloresisimo@dot.ca.gov and refer to GTS # 07-VEN-2023-04298.

3-3

Sincerely,

Miya Edmonson

MIYA EDMONSON
LDR/CEQA Branch Chief

cc: State Clearinghouse