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VIA EMAIL

April 18, 2025

City of Lancaster Planning Commission
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Steven Derryberry, Vice Chairman
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Re: Supplemental Comment on Revised Initial Study & Mitigated Negative Declaration, Conditional Use Permit No. 21-001, Tentative Tract Map No. 24-001, General Plan Amendment No. 21-001, Zone Change No. 21-001 (“Westlanc Hotel Project”)

Dear Honorable Members of the City of Lancaster Planning Commission and Ms. Swain:

This comment is submitted on behalf of Supporters Alliance for Environmental Responsibility (“SAFER”) regarding the Revised Initial Study/Mitigated Negative Declaration (“Revised MND”) prepared for Conditional Use Permit No. 21-001, Tentative Tract Map No. 24-001, General Plan Amendment No. 21-001, and Zone Change No. 21-001 (collectively, “Westlanc Hotel Project” or “Project”). The Project would involve the construction of a 235-room hotel, two apartment buildings with 181 units, three restaurants/retail pads totaling 12,800 square feet, and a 3,800-square-foot club house on a 10-acre site located at 15th Street West and Avenue L in Lancaster, California.

On September 18, 2024, during the comment period on the original MND (“Original MND”), SAFER submitted written comments to the City of Lancaster (“City”) Community Development Department. (“September 18 Comment”). In its September 18 Comment, SAFER established that there was a fair argument that the Project would have potentially significant adverse environmental effects, including, among other things, biological, noise, air quality, and indoor air quality impacts, and that the Original MND was insufficient to adequately reduce those impacts to a less-than-significant level. The September 18 Comment included analysis of the Project and Original MND by expert wildlife biologist Dr. Shawn Smallwood, Ph.D., expert

environmental engineer Patrick Sutton, P.E., M.S., from Baseline Environmental Consulting, and indoor air quality expert and certified industrial hygienist Francis Offermann, P.E., C.I.H.

These experts have also reviewed the Revised MND and prepared comments to supplement SAFER's September 18 Comment. Dr. Smallwood's comment is attached hereto as Exhibit A and is incorporated herein by reference in its entirety. Baseline's comment is attached hereto as Exhibit B and is incorporated herein by reference in its entirety. Mr. Offermann's comment is attached hereto as Exhibit C and is incorporated herein by reference in its entirety.

As discussed below, SAFER maintains that there is a fair argument that the Project may result in significant adverse environmental impacts and that the Revised MND inadequately analyzes and reduces these impacts to less than significant levels. Therefore, SAFER respectfully requests that the City prepare an environmental impact report ("EIR") before approving the Project in accordance with the California Environmental Quality Act ("CEQA").

PROJECT DESCRIPTION

The proposed Project requires a tentative tract map ("TTM") to subdivide the subject property into six parcels, a zone change from RR-2.5 (Rural Residential, minimum lot size 2.5 acres) to MU-C (Mixed Use-Commercial), and a general plan amendment ("GPA") from Non-Urban Residential (NU) to Mixed-Use (MU) to allow for the construction and operation of a mixed-use development, located on a 10-acre site at 15th Street West and Avenue L in the City of Lancaster. The development would consist of a 235-room hotel, two apartment buildings with 181 total units, three restaurant/retail pads totaling 12,800 square feet, and a 3,800-square-foot club house associated with the hotel. 799 total parking spaces would be provided for the Project in the center of the site, with most of the parking for the apartments and hotel provided underground. Landscaping would be provided along the perimeter and throughout the Project site. The Project would also include street improvements along Avenue L and 15th Street West. The Project site is surrounded by the Caltrans right-of-way, Antelope Valley Freeway, and single-family residences to the east, and single-family residences to the South.

LEGAL STANDARD

As the California Supreme Court 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, 319-20.) "Significant environmental effect" is defined very broadly as "a substantial or potentially substantial adverse change in the environment." (Pub. Res. Code ["PRC"] § 21068; see also 14 CCR § 15382.) An effect on the environment need not be "momentous" to meet the CEQA test for significance; it is enough that the impacts are "not trivial." (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 83.) "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the

environment within the reasonable scope of the statutory language.” (*Communities for a Better Env’t v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109.)

The EIR is the very heart of CEQA. (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1214; *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, supra*, 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 903, 927.)

An EIR is required if “there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment.” (PRC § 21080(d); see also *Pocket Protectors, supra*, 124 Cal.App.4th at 927.) An MND instead of an EIR is proper only if 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.” (*Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331 [quoting PRC §§ 21064.5, 21080(c)(2)].) In that context, “may” means a reasonable possibility of a significant effect on the environment. (PRC §§ 21082.2(a), 21100, 21151(a); *Pocket Protectors, supra*, 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.)

An EIR must be prepared rather than an MND “whenever it can be fairly argued on the basis of substantial evidence that the project may have a significant environmental impact.” (*No Oil, Inc. v City of Los Angeles* (1974) 13 Cal.3d 68, 75.) Under this “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, supra*, 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, supra*, 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 & Zishcke, *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*, *supra*, 124 Cal.App.4th at 928.)

DISCUSSION

I. There is a fair argument that the Project may have significant adverse biological impacts.

Expert wildlife biologist Shawn Smallwood, Ph.D., has reviewed the Project, the Revised MND, and other supporting documents regarding the Project’s biological impacts. Dr. Smallwood found that the Revised MND failed to adequately analyze the Project’s biological impacts because: (1) the Revised MND failed to account for the diversity of species present on the Project site, including several special-status species; (2) the Revised MND insufficiently addressed the Project’s adverse impacts on wildlife; and (3) the Revised MND’s proposed mitigation measures are inadequate. He thus concluded that the Project may have significant adverse biological effects that warrant preparation of an EIR.

A. The Revised MND failed to account for the diversity of species present on the Project site, including several special-status species.

Dr. Smallwood’s associate, biologist Noriko Smallwood, M.S., conducted four visits to the Project site: a 2.5-hour visit on August 31, 2024; a 2.63-hour visit on September 1, 2024; and most recently, a 2.65-hour visit and a 2.25-hour visit on April 3, 2025. (Ex. A at 2.) The results of Ms. Smallwood’s August and September site visits were discussed in Dr. Smallwood’s comments on the Original MND in SAFER’s September 18 Comment.

From her April visits, Ms. Smallwood detected eleven additional species of vertebrate wildlife at or around the Project site that she had not seen during her prior visits. (*Id.* at 3.) These additional species included five special-status species: the Double-Crested Cormorant, a bird on California’s Taxa to Watch List (“WL”); the Cooper’s Hawk and the Prairie Falcon, both birds on the WL and Birds of Prey (“BOP”); the Red-Tailed Hawk, a BOP; and the Bullock’s Oriole, a Bird of Conservation Concern. (*Id.* at 13.) From her four surveys, Ms. Smallwood detected 36

total species of vertebrate wildlife at or around the Project site, including nine total special-status species. (*Id.* at 3.) Ms. Smallwood also observed many Joshua Trees on the site. (*Id.* at 2.)

Dr. Smallwood calculated that continued and more extensive surveys would reveal an even greater diversity of wildlife at the Project site, up to 83 predicted species of vertebrate wildlife, including 21 special-status species. (*Id.* at 15.)

To achieve the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the biological analysis should identify which wildlife species are known to occur at the proposed project site, which special-status species are likely to occur, and the limitations of the survey efforts directed to the site. Analysts need this information to characterize the environmental setting as a basis for predicting potential project impacts to biological resources. (*Id.* at 17.)

Like the Original MND, the Revised MND's biological impacts section is based on a Project site survey conducted two years ago, in May 2023, by Callyn Yorke, Ph.D. ("Yorke Study"). (*Id.*) In SAFER's September 18 Comment, Dr. Smallwood discussed the many deficiencies in the Yorke Study. Among other things, these inadequacies included that Dr. Yorke's site survey failed to meet the minimum requirements of the US Fish & Wildlife Service survey guidelines, relied on outdated and improper survey protocols for his burrowing owl survey, omitted details of his health assessment of the Joshua Trees on the site, insufficiently evaluated habitat quality for at least three special-status species, understated the occurrence likelihoods of special-status species based on the flawed argument that the site is disturbed, and excluded a thorough desktop review of available literature and databases, such as eBird and iNaturalist. (*Id.* at 17, 19-21.)

Based on his review, Dr. Smallwood estimated that 108 special-status wildlife species are known to occur close enough to the Project site to warrant analysis of their occurrence potential. (*Id.* at 21.) Dr. Smallwood thus concluded that "the site is far richer in special-status species than is characterized in Yorke (2023)." (*Id.*) As discussed above, Ms. Smallwood identified five additional special-status species on the Project site. These species are identified in neither the Revised MND nor the Yorke Study. Dr. Smallwood's analysis therefore shows that the Revised MND has failed to account for the special-status species that occur on the Project site.

CEQA requires the agency to describe the "environmental setting" of the Project. (CEQA Guidelines §15063(d)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322.) The "environmental setting" is defined as "the physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." (CEQA Guidelines § 15360; see PRC § 21060.5; *Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1192.) By failing to disclose the fact that the Project site contains at least five additional special-status species, the Revised MND fails to adequately describe the "environmental setting" and thereby fails to adequately analyze the Project's biological impacts.

B. The Revised MND inadequately analyzed the Project's significant adverse impacts on wildlife.

Dr. Smallwood concluded that the Revised MND inadequately addressed various significant types of potential Project impacts on biological resources, including: (1) habitat loss; (2) interference with wildlife movement; (3) traffic mortality; (4) bird-window collision mortality; and (5) cumulative impacts.

1. Habitat Loss

Dr. Smallwood calculated that the habitat loss generated by the Project would cause the loss of 22 bird nesting sites and 30 nesting attempts per year, a loss that “would qualify as significant impacts that have not been analyzed by the City.” (Ex. A at 28.) Furthermore, Dr. Smallwood emphasized that reproductive capacity of the Project site would also be permanently lost, estimating that the Project would prevent the production of 96 birds per year. (*Id.*) Thus, “at least a fair argument can be made for the need to prepare an EIR to appropriately analyze the potential impacts resulting from habitat loss and habitat fragmentation.” (*Id.*)

2. Interference with Wildlife Movement

Dr. Yorke contended that the Project site is a habitat island that provides no corridors for wildlife movement. (Yorke Study at 3.) However, Dr. Smallwood noted that Dr. Yorke's conclusion is flawed and misleading since it focuses only on non-volant, terrestrial wildlife. (Ex. A at 28.) Dr. Smallwood emphasized that volant (flying) wildlife also need opportunities to stopover during travel, and that birds clearly use the site, including many migratory birds. (*Id.*) Ultimately, “the project site is important to wildlife movement in the region.” (*Id.*)

3. Traffic Mortality

Dr. Smallwood found that the Revised MND does not analyze the Project's potential impacts to wildlife from road collision mortality as a result of increased traffic generated by the Project. (*Id.* at 29.) The Revised MND provided no predictions of annual vehicle miles traveled (“VMTs”), but Dr. Smallwood predicted that the Project would generate approximately 9,011,904 annual VMT from the hotel and apartment units alone. (*Id.* at 30.) Based on this estimate, Dr. Smallwood calculated that the Project would cause about 3,833 vertebrate wildlife-traffic fatalities per year. (*Id.* at 31.) He thus concluded that “the project-generated traffic would cause substantial, significant impacts to wildlife,” a potential impact that the Revised MND failed to analyze or mitigate. (*Id.*) An EIR is hence required to address this impact.

4. Bird-Window Collision Mortality

The Project would add 181 apartment units, a 235-room hotel, and three additional buildings to open air space that is currently habitat for birds. (*Id.*) These new buildings would

present glass windows to birds attempting to use a vital portion of their habitat. (*Id.*) According to Dr. Smallwood, the Project will thus significantly impact birds as a result of window collisions. Analyzing the potential impact on wildlife from window collisions is critical because “[w]indow collisions are often characterized as either the second or third largest source of human-caused bird mortality.” (*Id.*) Yet, the Revised MND neither analyzed nor mitigated these potential impacts on special-status bird species.

The Revised MND did not report the full extent of exterior glass windows on the proposed buildings. (*Id.* at 34.) However, based on the Project dimensions, Dr. Smallwood predicts 13,416 square meters of exterior glass for the buildings. (*Id.*) Based on this amount of exterior glass, Dr. Smallwood estimates that the Project will cause about 490 annual bird deaths from window collisions. (*Id.*) Dr. Smallwood’s database review and Ms. Smallwood’s site visits indicate that there are approximately 90 special-status bird species with the potential to use the airspace around the Project site. (*Id.* at 31.) Most of the predicted bird-window collision deaths would be of birds protected under the federal Migratory Bird Treaty Act and the California Migratory Bird Protection Act, “thus causing significant unmitigated impacts.” (*Id.* at 34.) Given the estimated level of bird-window collision mortality and the MND’s lack of proposed mitigation, Dr. Smallwood concluded that “the proposed project would result in potentially significant adverse biological impacts.” (*Id.*) The City thus must prepare an EIR to analyze and mitigate the Project’s potential impacts from bird-window collisions.

5. Cumulative Impacts

CEQA documents, such as the MND, must discuss cumulative impacts and mitigate significant cumulative impacts. (14 CCR § 15130(a).) This requirement flows from CEQA Section 21083, which requires a finding that a project may have a significant effect on the environment if:

The possible effects of a project are individually limited but cumulatively considerable. . . . “Cumulatively considerable” means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (PRC § 21083.)

A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable probable future projects whose impacts might compound or interrelate with those of the project at hand.

Dr. Smallwood found that the Revised MND’s “cumulative impacts analysis is fundamentally flawed,” stating that the Revised MND “rejects CEQA’s concept of cumulative impacts by asserting that many project impacts are site-specific and generally do not influence the impacts of other projects” and “implies that the mitigation proposed for project-level impacts would leave no residual impacts that could be considered cumulatively considerable.” (Ex. A at 34.) Dr. Smallwood noted that this notion that residual impacts are the source of cumulative

impacts conflicts with CEQA's definition of cumulative impacts. (*Id.*)

Dr. Smallwood calculated that the Project's cumulative effects would include approximately 96 birds denied annually due to habitat loss, 490 annual bird fatalities from window collisions, and 3,833 annual vertebrate wildlife fatalities due to collisions with project-generated traffic. (*Id.* at 34.) None of these impacts are mitigated in the Revised MND. Thus, there is a fair argument that the City must prepare an EIR to adequately analyze and mitigate the Project's potential contributions to adverse cumulative impacts on wildlife.

C. The Revised MND's proposed mitigation measures are insufficient to reduce the Project's adverse biological impacts.

The Revised MND provides multiple mitigation measures to address the Project's adverse biological impacts. However, Dr. Smallwood found each of these measures to be inadequate. (*Id.* at 35.)

First, Mitigation Measures 2 and 3 require the Project Applicant to obtain and comply with a Western Joshua Tree Conservation Act permit from the California Department of Fish & Wildlife ("CDFW") to remove the Joshua Trees on the Project site. (Revised MND at 23.) However, Dr. Smallwood held that obtaining a necessary take permit is not a legitimate mitigation measure because it achieves no conservation benefit and fails to minimize, avoid, or compensate for the adverse impact to occur. (Ex. A at 35.) Even if the CDFW required compensation, the compensation details must be summarized in the CEQA document so that the public and decision-makers have the opportunity to meaningfully comment on the measure. (*Id.*) Here, the Revised MND did not provide any compensation details regarding this measure. (Revised MND at 23.) A CEQA lead agency cannot delegate responsibility to develop mitigation measures to a responsible agency, even if the responsible agency has more expertise in a particular area. The lead agency must use its authority to analyze the entire project and to devise mitigation measures. (*Lexington Hills v. State of Cal.* (1988) 200 Cal.App.3d 415, 433-435.) Nor can the City defer development of mitigation for this significant impact to Joshua Trees until after Project approval. As the court stated in *Sundstrom v. Cnty. of Mendocino* (1988) 202 Cal.App.3d 296, 307:

"A study conducted after approval of a project will inevitably have a diminished influence on decisionmaking. Even if the study is subject to administrative approval, it is analogous to the sort of post hoc rationalization of agency actions that has been repeatedly condemned in decisions construing CEQA."

Furthermore,

"[R]eliance on tentative plans for future mitigation after completion of the CEQA process significantly undermines CEQA's goals of full disclosure and informed decisionmaking; and[,] consequently, these mitigation plans have been overturned on judicial review as

constituting improper deferral of environmental assessment.” (*Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 92.)

Second, Mitigation Measure 4 requires that preconstruction nesting bird surveys be conducted within fourteen days before Project construction. (Revised MND at 23.) However, Dr. Smallwood explained that sufficient preconstruction take-avoidance surveys are very difficult and effort-intensive to complete, as they require multiple surveys spread over many dates throughout the bird breeding season. (Ex. A at 35.) Additionally, Dr. Smallwood stated that preconstruction surveys do nothing to actually mitigate the loss of reproductive capacity following Project construction. (*Id.*) Regardless of a preconstruction survey’s success, all subsequent years of reproductivity would be destroyed. (*Id.*)

Third, Mitigation Measure 5 requires that preconstruction Burrowing Owl clearance surveys be performed within thirty days before Project construction in accordance with the methods outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). (Revised MND at 23.) However, Dr. Smallwood found that the language of this mitigation measure falsely implies that a preconstruction survey performed without completed detection surveys could be consistent with the CDFW Survey & Mitigation Guidelines (2012). (Ex. A at 36.) Dr. Smallwood explained that performing a preconstruction survey without the aid of a breeding-season survey would conflict with the specific intended sequence of the survey chronology advocated by CDFW and would disadvantage biologists as to where burrowing owls are located. (*Id.*)

Lastly, Mitigation Measure 6 requires that a preconstruction survey be conducted to determine the presence of the North California Legless Lizard. (Revised MND at 23.) However, preconstruction surveys are not the same kind of survey as a detection survey. Dr. Smallwood stated that reliance on preconstruction surveys as if they were detection surveys is improper, since detection surveys must be performed at the appropriate time of year, not just 72 hours before construction. (Ex. A at 36.)

Dr. Smallwood suggests numerous other mitigation measures that the City should implement to reduce the Project’s significant adverse impacts on biological resources, should the Project proceed. These mitigation measures include monitoring of Project construction impacts on wildlife, committing to no use of rodenticides or avicides, use of bird-safe glass and window treatments, compensatory mitigation for road mortality, funding of wildlife rehabilitation facilities, and native plant landscaping. (*Id.* at 36-38.)

II. There is a fair argument that the Project may have significant Valley Fever impacts.

The Revised MND admits that the Project may have impacts related to Valley Fever. The Revised MND states at page 16:

. . . [S]ince the construction of the proposed project would result in the disturbance of the soil, it is possible individuals could be exposed to Valley Fever. Valley Fever or coccidioidomycosis, is primarily a disease of the lungs caused by the spores of the *Coccidioides immitis* fungus. The spores are found in soils, become airborne when the soil is disturbed, and are subsequently inhaled into the lungs. After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

The Revised MND further states that:

Nearby sensitive receptors as well as workers at the project site could be exposed to Valley Fever from fugitive dust generated during construction. There is the potential that cocci spores would be stirred up during excavation, grading, and earth-moving activities, exposing construction workers and nearby sensitive receptors to these spores and thereby to the potential of contracting Valley Fever. (Revised MND at 17.)

As mitigation, the Revised MND proposes that, before ground disturbance activities, “the project operator shall provide evidence to the Community Development Director that the project operator and/or construction manager has developed a ‘Valley Fever Training Handout,’ training, and schedule of sessions for education to be provided to all construction personnel.” (Revised MND at 17.)

CEQA prohibits such deferred mitigation. The agency cannot rely on the development of a mitigation measure in the future, since there is no way to ensure that that mitigation will be adequate. For example, in this case, the public has no way to ensure that the forthcoming Valley Fever Training Handout will be adequate to reduce risks to a less-than-significant level.

CEQA disallows deferring the formulation of mitigation measures to post-approval studies. (CEQA Guidelines § 15126.4(a)(1)(B); Sundstrom, 202 Cal.App.3d at 308-309.) An agency may only defer the formulation of mitigation measures when it possesses “‘meaningful information’ reasonably justifying an expectation of compliance.” (*Sundstrom*, 202 Cal.App.3d at 308; *see also Sacramento Old City Ass’n v. City Council of Sacramento* (1991) 229 Cal.App.3d 1011, 1028-29 (mitigation measures may be deferred only “for kinds of impacts for which mitigation is known to be feasible”).) A lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or feasibility (*Kings Cnty. Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727 (finding groundwater purchase agreement inadequate mitigation because there was no evidence that replacement water was available).) This approach helps “insure the integrity of the process of decisionmaking by precluding stubborn problems or serious criticism from being swept under the rug.” (*Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.)

Because the City is relying on deferred mitigation to address the Project's Valley Fever impacts, there is a fair argument that those impacts remain significant. An EIR is required to develop clear, enforceable mitigation measures to address Valley Fever.

III. There is a fair argument that the Project may have significant adverse noise impacts.

Expert environmental engineer Patrick Sutton, P.E., M.S., from Baseline Environmental Consulting has reviewed the Project, the Revised MND, and other supporting documents regarding the Project's noise impacts. Mr. Sutton found that the Revised MND failed to fully analyze the Project's construction noise impacts and whether the Revised MND's proposed mitigation can effectively reduce these impacts. (Ex. B at 4.) He thus concluded that the Project may have significant noise effects that warrant preparation of an EIR to adequately evaluate and mitigate these effects. (*Id.*)

The Revised MND admits that the Project may have significant noise impacts without mitigation. (Revised MND at 51.) The Revised MND states: "Operational noise from the proposed development, particularly the hotel and potential loading dock activities, could generate noise levels in excess of standards for the neighboring residential properties if the uses are not designed appropriately." (*Id.*)

To address the Project's noise impacts, the Revised MND proposes Mitigation Measure 22. The Revised MND states:

Prior to the submittal of any grading and/or building permits, the applicant shall have a construction and operational noise study prepared which identifies the existing/future noise and any necessary design features to ensure that noise levels at adjacent residences do not exceed 65 dBA during construction or operation. (Revised MND at 51.)

However, as Mr. Sutton explained in SAFER's September 18 Comment, pile driving for construction for the Project's underground parking garages would generate noise levels as high as 79 dBA Leq (86 dBA Lmax) at the nearest sensitive receptor, exceeding the City's noise threshold of 65 dBA. (Ex. B at 4.) He found that the Revised MND did not disclose or evaluate this potentially significant noise impact, nor did it assess whether Mitigation Measure 22 could effectively reduce this impact to a less-than-significant level. (*Id.*) Mr. Sutton further noted that there are other potential mitigation measures for pile driving, such as silent pile drivers, depending on the building design and geotechnical specifications. (*Id.*)

Additionally, Mr. Sutton emphasized that the Mitigation Measure 22 improperly defers the study and mitigation of the Project's noise impacts to the future. (*Id.*) As discussed above, CEQA prohibits reliance on deferred mitigation measures that are developed after Project approval, as here. There is no way that the public or decision-makers can ensure that the mitigation measures will be adequate to reduce impacts to less-than-significant levels.

Moreover, by deferring the development of specific mitigation measures, the City has effectively precluded public input into the development of those measures. CEQA prohibits this approach. As explained by the *Sundstrom* court:

An EIR [is] subject to review by the public and interested agencies. This requirement of “public and agency review” has been called “the strongest assurance of the adequacy of the EIR.” The final EIR must respond with specificity to the “significant environmental points raised in the review and consultation process.” . . . Here, the hydrological studies envisioned by the use permit would be exempt from this process of public and governmental scrutiny. (*Sundstrom*, 202 Cal.App.3d at 308.)

IV. There is a fair argument that the Project may have significant air quality impacts.

Mr. Sutton has also reviewed the Project, the Revised MND, and other supporting documents regarding the Project’s air quality impacts. He found that the Revised MND failed to adequately disclose, analyze, and mitigate the Project’s potentially significant air quality impacts related to criteria air pollutant emissions and air pollutant health risks. (Ex. B at 1-2.) Likewise, he found that the Revised MND failed to provide sufficient evidence to support its conclusion that the Project’s air quality impacts would be less than significant. (*Id.* at 3.) He therefore recommended that the City should prepare an EIR instead of an MND to fully evaluate and address the Project’s significant air quality effects. (*Id.* at 4.)

A. There is a fair argument that the Project may have significant criteria air pollutant impacts.

The Revised MND calculated the criteria air pollution emissions produced by the Project by measuring the Project’s daily vehicle trips, estimating that the Project would generate 3,656 daily vehicle trips. (Revised MND at 16.) However, the study underlying the MND assumed that the Project would generate only 23 to 698 vehicle trips per day according to the California Emissions Estimator Model (“CalEEMod”) report prepared for the Project by Metropolis Architecture, Inc. (“Metropolis Report”). (*Id.*; Ex. B at 1.) Thus, the Metropolis Report analyzed less than twenty percent of the Project’s total daily vehicle trips and therefore greatly underestimated the total criteria air pollutants emissions produced by the Project’s daily vehicle trips. (Ex. B at 1.) The City should prepare an EIR to resolve this discrepancy between the Metropolis Report and Revised MND.

Mr. Sutton found additional inconsistencies between the Revised MND and the Metropolis’s CalEEMod report regarding the Project’s maximum daily operational emissions of criteria air pollutants. (*Id.* at 2.) He concluded that these conflicts are due to significant errors in Metropolis’s preparation of the CalEEMod report. (*Id.*) Mr. Sutton concluded that there is no substantial evidence to support the Revised MND’s analysis of criteria air pollutant impacts. (*Id.*)

Moreover, the CalEEMod report in the Metropolis Study failed to measure the emissions from several different land uses representative of the Project, including emissions from the Project's proposed hotel, mid-rise apartments, restaurants, health club, swimming pools, and parking structures. (*Id.* at 1-2.) The Revised MND did not explain why no emission calculations were provided for these land use types. (*Id.* at 2.)

B. There is a fair argument that the Project may have significant impacts related to air pollutant health risks.

The Revised MND states that the 3,656 net vehicle trips per day generated by the Project would not expose nearby sensitive receptors to substantial concentrations of air pollutants. (Revised MND at 16.) However, Mr. Sutton found that the Revised MND provided no evidence to support this claim. (Ex. B at 2.)

Additionally, Mr. Sutton found that the Revised MND failed to prepare a health risk assessment ("HRA") to evaluate the potential health risks associated with the Project's construction diesel particulate matter ("DPM") emissions. (*Id.* at 3.) Mr. Sutton explained that the exhaust from the Project's off-road diesel construction equipment would produce DPM emissions for the Project's fourteen-month construction period. (*Id.*) Sensitive receptors less than 500 feet from the Project site, including adjacent residential homes, thus could be exposed to the Project's construction DPM emissions. (*Id.*) According to Mr. Sutton's previous HRA for the Project in SAFER's September 18 Comment, the Project's construction DPM emissions would expose the nearest sensitive receptors to an estimated cancer risk of approximately 11.9 per million, exceeding the 10 per million threshold of the Antelope Valley Air Quality Management District ("AVAQMD"). (*Id.*) Therefore, Mr. Sutton concluded that the Project has a potentially significant air quality impact that requires further analysis and mitigation in an EIR. (*Id.*) Because the calculated cancer risk exceeds a CEQA significance threshold, there is a fair argument that the Project's air quality impact is significant and it must be analyzed in an EIR. (*Communities for a Better Env't v. S. Coast Air Quality Mgmt. Dist.* (2010) 48 Cal. 4th 310, 327; *Schenck v. Cnty. of Sonoma* (2011) 198 Cal. App. 4th 949, 957.)

V. There is a fair argument that the Project may have significant indoor air quality impacts.

The Revised MND contains no analysis of indoor air quality impacts. Certified industrial hygienist, Francis Offermann, P.E., C.I.H., has reviewed the Project, the Revised MND, and other supporting documents. Mr. Offermann concludes that the Project may expose its future residents and commercial workers to significant health impacts related to indoor air quality, particularly 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 explains that many composite wood products used in building materials commonly found in residences contain formaldehyde-based glues which release formaldehyde

gas over a very 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 particle board. These materials are commonly used in residential, office, and retail building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims.” (Ex. C at 2-3.)

Formaldehyde is a known human carcinogen, classified by the State as a Toxic Air Contaminant. The AVAQMD has established a CEQA significance threshold for airborne cancer risk of 10 per million. Mr. Offermann found that future Project occupants may be exposed to a cancer risk from formaldehyde emissions of about 120 per million for residents, and 17.7 per million for commercial employees, even assuming that all materials comply with the California Air Resources Board’s (“CARB”) formaldehyde airborne toxics control measure. (*Id.* at 4-5.) This exceeds the AVAQMD’s CEQA significance threshold for airborne cancer risk. (*Id.* at 2.)

Mr. Offermann concludes that the Project will have significant environmental impacts that must be analyzed in an EIR and that mitigation measures must be imposed to reduce the raised cancer risk. (*Id.* at 12-13.) Mr. Offermann prescribes a methodology for estimating the Project’s formaldehyde emissions for a more project-specific health risk assessment. (*Id.* at 6-10.) He also identifies feasible several mitigation measures to decrease the significant health risks, like installing air ventilation systems and requiring the use of composite wood materials only for all interior finish systems that are made with CARB-approved no-added formaldehyde (“NAF”) resins or ultra-low emitting formaldehyde (“ULEF”) resins. (*Id.* at 12-14.)

When a project exceeds a duly adopted CEQA significance threshold, as here, this alone establishes substantial evidence that the project will have a significant adverse environmental impact. Indeed, in many instances, such air quality thresholds are the only criteria reviewed and treated as dispositive in evaluating the significance of a project’s air quality impacts. (*See, e.g. Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 960 [County applies Air District’s “published CEQA quantitative criteria” and “threshold level of cumulative significance”]; *see also Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 110-11 [“A ‘threshold of significance’ for a given environmental effect is simply that level at which the lead agency finds the effects of the project to be significant”].) The California Supreme Court has shown the importance an air district significance threshold has in providing substantial evidence of a significant adverse impact. (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 327 [estimated emissions in excess of air district’s significance thresholds “constitute substantial evidence supporting a fair argument for a significant adverse impact”].) Since expert evidence shows the Project will exceed the AVAQMD’s CEQA significance threshold, there is substantial evidence that an “unstudied, potentially significant environmental effect[]” exists. (*See Friends of Coll. of San Mateo Gardens v. San Mateo Cty. Cmty. Coll. Dist.* (2016) 1 Cal.5th 937, 958.)

The City’s 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*”). The Court held in *CBIA* that CEQA does not generally require lead agencies to analyze the impacts of adjacent environmental conditions on a project. (*Id.* at 800-01.) However, to the extent that a project may exacerbate existing environmental conditions at or near a project site, those effects 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 requires 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.)

The carcinogenic formaldehyde emissions Mr. Offermann has identified are not an existing environmental condition. Those emissions will be from the Project. Residential tenants will be the Project’s users. Currently, there is presumably little to no formaldehyde emissions at the site. Once built, the Project will start emitting formaldehyde at levels posing significant direct and cumulative health risks to the Project’s users. The California Supreme Court in *CBIA* expressly found that this air emission and health impact from the Project on the environment and a “project’s users and residents” must be addressed under CEQA.

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

The City has a duty to investigate issues relating to a project’s potential environmental impacts. (*See County Sanitation Dist. No. 2 v. County of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98. [“[U]nder CEQA, the lead agency bears a burden to investigate potential environmental impacts.”].) The Project will have significant effects on indoor air quality and health risks by emitting formaldehyde that will expose future residents and commercial employees to cancer risks exceeding AVAQMD’s significance threshold for cancer risk of 10 per million. In light of this impact and the City’s lack of any evidence to the contrary, the City must prepare an EIR before approving the Project to analyze and mitigate these impacts.

VI. There is a fair argument that the Project may have significant cumulative impacts.

The Revised MND admits that several other projects are proposed in the same area. The

Revised MND states, “Other projects have been approved or are under review within approximately one mile of the project site including those identified in Table 7. These projects are also required to be in accordance with the City’s zoning code and General Plan. Cumulative impacts are the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable projects.” (Revised MND at 63.) The Revised MND continues:

Many of the impacts generated by projects are site specific and generally do not influence the impacts on another site. All projects undergo environmental review and require mitigation measures to reduce impacts when warranted. These mitigation measures reduce environmental impacts to less than significant levels whenever possible. Therefore, the project’s contribution to cumulative impacts would be less than significant.

(Revised MND at 64.)

The City assumes that the cumulative impacts of these projects will be less than significant without any analysis or substantial evidence. The City cannot assume that the impacts of each and every project will be mitigated to less-than-significant levels without analysis.

A CEQA document must discuss significant cumulative impacts. (CEQA Guidelines § 15130(a).) This requirement flows from CEQA section 21083, which requires a finding that a project may have a significant effect on the environment if “the possible effects of a project are individually limited but cumulatively considerable.” (PRC § 21083.) “Cumulatively considerable” means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (*Id.*) “Cumulative impacts” are defined as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” (CEQA Guidelines § 15355(a).) “[I]ndividual effects may be changes resulting from a single project or a number of separate projects.” (*Id.*)

“The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.” (*Communities for a Better Environment v. Cal. Resources Agency* (“*CBE v. CRA*”) (2002) 103 Cal.App.4th 98, 117.) “Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.” (*Id.*) A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable probable future projects whose impacts might compound or interrelate with those of the project at hand. As the court stated in *CBE v. CRA*, 103 Cal.App.4th at 114:

Cumulative impact analysis is necessary because the full environmental impact of a proposed project cannot be gauged in a vacuum. One of the most important

environmental lessons that has been learned is that environmental damage often occurs incrementally from a variety of small sources. These sources appear insignificant when considered individually, but assume threatening dimensions when considered collectively with other sources with which they interact.

In *Kings Cnty. Farm Bureau*, 221 Cal.App.3d at 718, the court concluded that an EIR inadequately considered an air pollution (ozone) cumulative impact. The court said:

The [] EIR concludes the project's contributions to ozone levels in the area would be immeasurable and, therefore, insignificant because the [cogeneration] plant would emit relatively minor amounts of [ozone] precursors compared to the total volume of [ozone] precursors emitted in Kings County. The EIR's analysis uses the magnitude of the current ozone problem in the air basin in order to trivialize the project's impact.

(*Id.*) The court concluded that the relevant question to be addressed in the EIR was not the relative amount of precursors emitted by the project when compared with preexisting emissions, but whether any additional amount of precursor emissions should be considered significant in light of the serious nature of the ozone problems in this air basin. (*Id.*)

CONCLUSION

As discussed above, there is a fair argument that the Project may have significant adverse environmental impacts. An EIR rather than an MND is thus required to analyze and mitigate the Project's potentially significant impacts. Therefore, SAFER respectfully requests that the City not rely on the Revised MND and instead prepare and circulate an EIR before further consideration of the Project.

Sincerely,

A handwritten signature in cursive script, appearing to read "Hayley Uno".

Hayley Uno
LOZEAU DRURY LLP

EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Jocelyn Swain, Senior Planner
City of Lancaster
Community Development Department
Planning and Permitting Division
44933 Fern Avenue
Lancaster, California 93534

7 April 2025

RE: Westlanc Partners Hotel Project

Dear Ms. Swain,

I write to comment on potential impacts to biological resources from the proposed Westlanc Partners Hotel Project, which I understand would add a 235-room hotel, two apartment buildings with 181 units, three restaurant/retail pads totaling 12,800 square feet, and a 3,800 square-foot club house on 10 acres located on 15th Street West and Avenue L in Lancaster, California. I comment on the analyses of impacts to biological resources in a biological resources technical report (Yorke 2023) and the City's Revised Initial Study/Mitigated Negative Declaration (IS/MND).

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 anthroposphere, 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.

THE WILDLIFE COMMUNITY AS BIOLOGICAL RESOURCE

Most environmental reviews pursuant to the California Environmental Quality Act (CEQA) focus on special-status species because CEQA's Checklist Evaluation of Environmental Impacts specifies that such evaluation includes potential impacts to special-status species. However, an important policy of CEQA is "to prevent the elimination of fish or wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history." Pub. Res. Code § 21001(c). This policy is not restricted to special-status species, but applies to wildlife populations and plant and

animal communities. In fact, the CEQA Guidelines Section 21155.1 defines wildlife habitat as “the ecological communities upon which wild animals, birds, plants, fish, amphibians, and invertebrates depend for their conservation and protection.” The CEQA Checklist Evaluation assigns priority to special-status species to balance information and cost, but it does not exclude the need to evaluate environmental impacts to other species, which, after all, are members of the very communities within which special-status species inter-depend for survival and reproduction.

All wildlife species should be of concern in a CEQA review, but the CEQA prioritizes special-status species. The species I consider to be special-status species are those listed in California’s Special Animals List inclusive of threatened and endangered species under the California and federal Endangered Species Acts, candidates for listing under CESA and FESA, California’s Fully Protected Species, California species of special concern, and California’s Taxa to Watch List (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406>), continental and region-specific US Fish and Wildlife Service Birds of Conservation Concern (<https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf>), and naturally rare species such as raptors protected by California’s Birds of Prey laws, Fish and Game Code Sections 3503, 3503.5, 3505 and 3513 (see <https://wildlife.ca.gov/Conservation/Birds/Raptors>).

SITE VISITS

On my behalf, Noriko Smallwood, a wildlife biologist with a Master of Science degree from California State University Los Angeles, visited the site of the proposed project for 2.5 hours from 17:00 to 17:30 hours on 31 August 2024, for 2.63 hours from 06:27 to 9:05 hours on 1 September 2024, and for 2.65 hours in the morning and 2.25 hours in the evening on 3 April 2025. She walked the site’s western 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 14 MPH southwest wind and temperatures of 97-89° F on 31 August 2024, sunny with 3 MPH southwest wind and temperatures of 68-82° F on 1 September 2024, sunny with no wind and temperatures of 37-49° F on the morning of 3 April 2025 and sunny with 10 MPH west wind and temperatures of 59-52° F on the evening of 3 April 2025. The site supported many Joshua trees, native and non-native shrubs, and annual grass, and the site has been mowed (Photos 1, 2, and 3).

Noriko saw prairie falcon (Photos 4 and 5), American kestrel and Cooper’s hawk (Photos 6 and 7), merlin (Photos 8 and 9), red-tailed hawk and double-crested cormorant (Photos 10 and 11), desert cottontail and northern mockingbird (Photos 12 and 13), loggerhead shrike (Photo 14 and 15), cactus wren and Say’s phoebe (Photos 16 and 17), Nuttall’s woodpecker and mourning dove (Photos 18, 19, and 30), Cassin’s kingbird and western kingbird (Photos 20 and 21), western meadowlark and black phoebe (Photos 22 and 23), common raven (Photos 24 and 25), Anna’s hummingbird and white-crowned

sparrow (Photos 26 and 27), house cat and yellow-backed spiny lizard (Photos 28 and 29), rock pigeon (Photo 31), Eurasian collared-dove and tree swallow (Photos 32 and 33), California quail (Photos 12, 34, and 36), house finch (Photo 36), among the other species listed in Tables 1 and 2. From her four surveys Noriko detected 36 species of vertebrate wildlife at or adjacent to the project site, including nine species with special status (Tables 1 and 2). Her second survey visit added 11 species, including five special-status species, to her initial list of detected species (Table 2).

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

Noriko Smallwood

Noriko Smallwood



Photos 1, 2, and 3. Views of the project site, 31 August 2024 (top and middle), and 3 April 2025 showing vegetation mowed (bottom). Photos by Noriko Smallwood.



Photos 4 and 5. *Prairie falcon with a European starling in its talons while being harassed by a western kingbird, 3 April 2025. Photos by Noriko Smallwood.*



Photos 6 and 7. *American kestrel perched on Joshua tree on the project site (left, 31 August 2024), and Cooper's hawk on the project site (right, 3 April 2025). Photos by Noriko Smallwood.*



Photos 8 and 9. Merlin perched and flying low over the project site, 3 April 2025. Photos by Noriko Smallwood.



Photos 10 and 11. Red-tailed hawk just off of the project site (left), and double-crested cormorant flying over the project site, 3 April 2025. Photos by Noriko Smallwood.



Photos 12, 13, 14, and 15. Desert cottontail and California quail (top left, 31 August 2024), northern mockingbird (top right, 3 April 2025), and loggerhead shrike (bottom, 1 September 2024) on the project site. Photos by Noriko Smallwood.



Photos 16 and 17. Cactus wren (left, 31 August 2024), and Say's phoebe (right, 1 September 2024) on the project site. Photos by Noriko Smallwood.



Photos 18 and 19. Nuttall's woodpecker just off of the project site (left), and mourning dove on the project site (right), 3 April 2025. Photos by Noriko Smallwood.



Photos 20 and 21. Western kingbird and Cassin's kingbird (left), and western kingbird making an attack on a prey item (right) on the project site, 3 April 2025. Photos by Noriko Smallwood.



Photos 22 and 23. Western meadowlark (left), and black phoebe (right) on the project site, 1 September 2024. Photos by Noriko Smallwood.



Photos 24 and 25. Common ravens flying over the project site with various food items, 3 April 2025. Photos by Noriko Smallwood.



Photos 26 and 27. Anna's hummingbird just off of the project site (left, 1 September 2024), and white-crowned sparrow on the project site (right, 3 April 2025). Photos by Noriko Smallwood.



Photos 28 and 29. House cat (left) and yellow-backed spiny lizard (right) on the project site, 31 August 2024. Photos by Noriko Smallwood.



Photos 30 and 31. Mourning dove (left, 31 August 2024), and rock pigeon (right, 1 September 2024) flying over the project site. Photos by Noriko Smallwood.



Photos 32 and 33. Eurasian collared-dove (left, 1 September 2024), and tree swallow (right, 3 April 2025) on the project site. Photos by Noriko Smallwood.



Photos 34, 35, and 36. Covey of California quail foraging on site (top and bottom left), on the project site, 1 September 2024, and house finches perched on Joshua tree on the project site, 31 August 2024. Photos by Noriko Smallwood.

Table 1. Species of wildlife Noriko observed during 5.13 hours of survey on 31 August and 1 September 2024.

Common name	Species name	Status ¹	Notes
Yellow-backed spiny lizard	<i>Sceloporus uniformis</i>		
California quail	<i>Callipepla californica</i>		Many, foraged on site
Rock pigeon	<i>Columba livia</i>	Non-native	
Eurasian collared-dove	<i>Streptopelia decaocto</i>	Non-native	
Mourning dove	<i>Zenaida macroura</i>		
Anna's hummingbird	<i>Calypte anna</i>		
Nuttall's woodpecker	<i>Picoides nuttallii</i>	BCC	Called from trees just off site
American kestrel	<i>Falco sparverius</i>	BOP	Foraged on site
Black phoebe	<i>Sayornis nigricans</i>		
Say's phoebe	<i>Sayornis saya</i>		Foraged on site
Loggerhead shrike	<i>Lanius ludovicianus</i>	SSC ²	
California scrub-jay	<i>Aphelocoma californica</i>		Just off site
Common raven	<i>Corvus corax</i>		
Cactus wren	<i>Campylorhynchus brunneicapillus</i>		Likely nested on or just off site
Northern mockingbird	<i>Mimus polyglottos</i>		
European starling	<i>Sturnus vulgaris</i>	Non-native	
House sparrow	<i>Passer domesticus</i>	Non-native	
House finch	<i>Haemorphous mexicanus</i>		Large flock
Lesser goldfinch	<i>Spinus psaltria</i>		
Western meadowlark	<i>Sturnella neglecta</i>		Flew over
Desert cottontail	<i>Sylvilagus audubonii</i>		
California ground squirrel	<i>Otospermophilus beecheyi</i>		Calling just off site
House cat	<i>Felis catus</i>	Non-native	
Pocket mouse			Burrows
Botta's pocket gopher	<i>Thomomys bottae</i>		Burrows

¹ Listed on Special Animals List as SSC = California Species of Special Concern (see Shuford and Gardali 2008 for numbers indicating priority of concern) or WL = Taxa to Watch List (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406>); listed by U.S. Fish and Wildlife Service as BCC = Bird of Conservation Concern (<https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf>); protected as BOP = Birds of Prey (California Fish and Game Code 3503.5).

Table 2. Species of wildlife Noriko observed during a 2.65-hour morning survey and a 2.25-hour evening survey on 3 April 2025. Gray shade identifies species Noriko detected during this survey but that were not detected during her first survey.

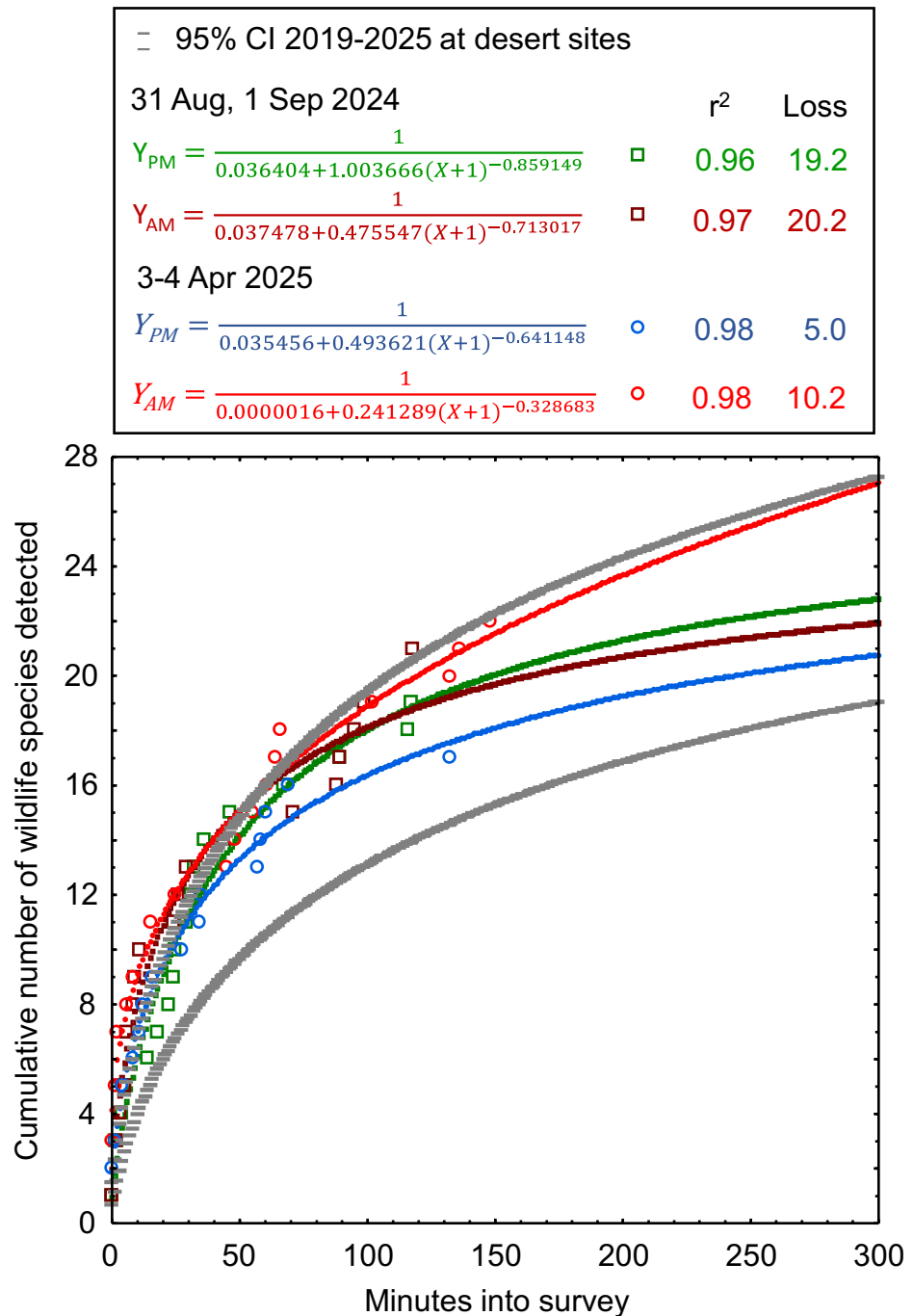
Common name	Species name	Status ¹	Notes
California quail	<i>Callipepla californica</i>		
Rock pigeon	<i>Columba livia</i>	Non-native	Many
Eurasian collared-dove	<i>Streptopelia decaocto</i>	Non-native	Flew over
Mourning dove	<i>Zenaida macroura</i>		Many, flew over, perched
Anna's hummingbird	<i>Calypte anna</i>		Foraged, territorial displays
Double-crested cormorant	<i>Nannopterum auritum</i>	WL	Flocks flew over
Cooper's hawk	<i>Accipiter cooperii</i>	WL, BOP	Flew over
Red-tailed hawk	<i>Buteo jamaicensis</i>	BOP	Perched just off site
Nuttall's woodpecker	<i>Picoides nuttallii</i>	BCC	Drumming on pole just off site
Merlin			Perched then flew low over site
Prairie falcon	<i>Falco mexicanus</i>	WL, BOP	Caught EUST then harassed by WEKI
Cassin's kingbird	<i>Tyrannus vociferans</i>		Foraged
Western kingbird	<i>Tyrannus verticalis</i>		Foraged, harassed PRFA
Common raven	<i>Corvus corax</i>		Flew over with food items
Tree swallow	<i>Tachycineta bicolor</i>		Foraged over site
Northern mockingbird	<i>Mimus polyglottos</i>		Territorial
European starling	<i>Sturnus vulgaris</i>	Non-native	Many
House sparrow	<i>Passer domesticus</i>	Non-native	Just off site
House finch	<i>Haemorphous mexicanus</i>		Many, foraged, likely nesting just off site (carried nest material)
Lesser goldfinch	<i>Spinus psaltria</i>		
White-crowned sparrow	<i>Zonotrichia leucophrys</i>		Foraged
Bullock's oriole	<i>Icterus bullockii</i>	BCC	Just off site
Yellow-rumped warbler	<i>Setophaga coronata</i>		
House cat	<i>Felis catus</i>	Non-native	
Botta's pocket gopher	<i>Thomomys bottae</i>		Burrows

¹ Listed on Special Animals List as SSC = California Species of Special Concern (see Shuford and Gardali 2008 for numbers indicating priority of concern) or WL = Taxa to Watch List (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406>); listed by U.S. Fish and Wildlife Service as BCC = Bird of Conservation Concern (<https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf>); protected as BOP = Birds of Prey (California Fish and Game Code 3503.5).

The species of wildlife Noriko detected at the project site comprised only a sampling of the species that were present during her survey. To demonstrate this, I fit nonlinear regression models to Noriko's cumulative numbers of vertebrate species detected with

time into each of her surveys to predict the numbers of species that she would have detected with longer surveys or perhaps with additional biologists available to assist her. The model is a logistic growth model which reaches an asymptote that corresponds with the maximum number of vertebrate wildlife species that could have been detected during each survey. In this case, the models fit to her surveys predict up to 28 species of vertebrate wildlife were available to be detected during her surveys, or six species more than the number she actually detected in her most productive survey (Figure 1).

Figure 1. Actual and predicted relationships between the numbers of vertebrate wildlife species detected and the elapsed survey time based on Noriko's visual-scan surveys on 31 August and 1 September 2024, and on 3 April 2025.



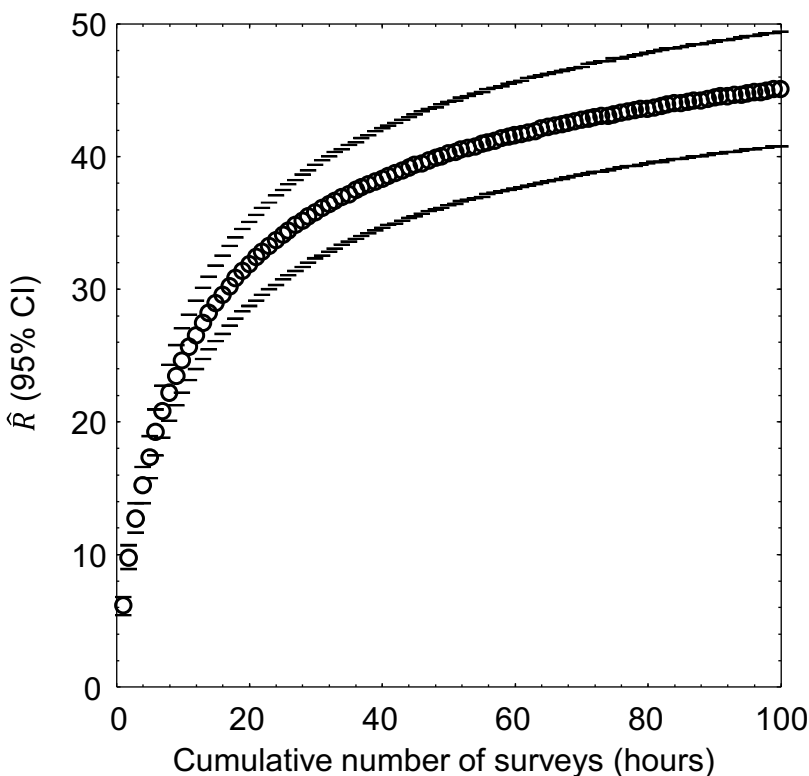
Unknown are the identities of those species Noriko missed, but the patterns in her data indicate relatively high use of the project site compared to 19 surveys at other desert sites she and I have completed in California. Noriko's rates of detections of species at the project site followed along the upper bound of the 95% confidence interval estimated from other surveys in California's deserts (Figure 1). Importantly, however, the species Noriko did and did not detect composed only fractions of the species that would occur at the project site over the period of a year or longer. This is because many species are seasonal in their occurrence.

At least a year's worth of surveys would be needed to more accurately report the number of vertebrate species that occur at the project site, but I only have Noriko's one survey. However, 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 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 would have detected 24.6 species over my first 10 hours of surveys at my research site in the Altamont Pass (10 hours to match the 10 hours Noriko surveyed at the project site), which composed 43.2% 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 2, the 36 species Noriko detected after her 10 hours of survey at the project site likely represented 43.2% 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, Noriko would likely detect $36 / 0.432 = 83$ species of vertebrate wildlife at the site. Assuming Noriko's ratio of special-status to non-special-status species was to hold through the detections of all 83 predicted species, then continued surveys would eventually detect 21 special-status species of vertebrate wildlife.

Because my prediction of 83 species of vertebrate wildlife, including 21 special-status species of vertebrate wildlife, is derived from daytime visual-scan surveys, and would detect few nocturnal mammals such as bats, the true number of species composing the wildlife community of the site must be larger. Noriko's reconnaissance survey should serve only as a starting point toward characterization of the site's wildlife community, but it certainly cannot alone inform of the inventory of species that use the site. More surveys are needed than her one survey to inventory use of the project site by wildlife. Nevertheless, the large number of species I predict at the project site is indicative of a relatively species-rich wildlife community that warrants a serious survey effort.

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.



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 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 the proposed project, these required steps remain 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.

Yorke (2023) performed a reconnaissance survey of the project site on 4 and 5 May 2023, between the hours of 08:30 and 10:00, presumably the same time periods on both days. Yorke's survey was intended to detect sensitive plants and animals, evaluate the health of individual Joshua trees and to inspect them for raptor nests, search for historical signs of occupation by desert tortoise, perform a Phase I clearance survey for burrowing owls, assess habitat quality for other special-status species such as loggerhead shrike, LeConte's thrasher and Mojave ground squirrel. In the results, it turns out that Yorke also searched the site for evidence of wildlife movement corridors. The eight or more objectives listed would have been too ambitious for such a brief survey period over 10 acres, and therefore it is likely that none of the objectives were satisfactorily achieved.

The survey objectives posed additional problems. One is that the probability of detections of sensitive animals would have been substantially lessened by starting the survey at 08:30 hours instead of at first light. Wildlife activity peaks in the early morning and late evening; activity wanes by 08:30 hours, especially in desert environments. I posit that Yorke would have detected more species had he started earlier.

Another problem was the burrowing owl survey. It is unclear what Yorke (2023) means by a Phase I clearance survey, as no such type of survey exists in the CDFW (2012) survey guidelines. A site cannot be "cleared" of burrowing owls based on one survey. Yorke mentions a survey protocol, but neglects to cite it. Yorke's (2023) list of References includes the 1993 guidelines, so presumably this was the source of his protocol. If so, the protocol Yorke used was decades out of date. He should have implemented the CDFW (2012) survey guidelines.

There are three types of surveys recommended and described in the CDFW's (2012) survey and mitigation guidelines: (1) Habitat assessment, (2) Detection surveys, and (3) Preconstruction survey. The habitat assessment is intended to evaluate the likelihood that the site supports burrowing owls, and to decide whether detection surveys should be performed. The detection surveys, otherwise described as either or both breeding-season or non-breeding-season surveys, are intended to detect whether the site actually does support burrowing owls, and if so where and how many. The preconstruction survey, otherwise known as a take-avoidance survey, is intended to determine whether

burrowing owls immigrated to the site since completion of the detection survey, or returned to the site since passive or active relocations were performed as mitigation. The three types of survey carry distinct but inter-related purposes, and they are to be completed in chronological order.

The first two types of survey support impacts analysis, whereas the third type of survey is a mitigation measure. Burrowing owls can be determined absent based on evidence derived from the habitat assessment or detection survey, but only if the surveys achieved the minimum standards of CDFW (2012). Whereas an absence determination naturally follows from the negative findings of properly performed detection surveys, the following three questions must be answered negatively to determine absence based on the habitat assessment, which would be the closest type of survey to what Yorke (2023) completed:

- A) Are there occurrence records nearby the project site?
- B) Is the site's vegetation cover and height typical of where burrowing owls are found?
- C) Are there fossorial mammals present which typically construct burrows useable by burrowing owls, or are there surrogate cavities that can serve as nest sites?

If the answers to these questions are compellingly negative, then detection surveys are not necessary, but they could be implemented to make certain the site is absent of burrowing owls. If the answers to these questions are affirmative or not compellingly negative, then it should be assumed that burrowing owl habitat exists on the site until detection surveys prove otherwise.

To question A, there are burrowing owl occurrence records near the project site, one of which is only 0.85 miles from the site. Noriko and I have seen burrowing owls nearby as well. To question B, the vegetation on site is typical of the area, and is typical of vegetation often used by burrowing owls. Noriko and I detected burrowing owls at a nearby site with very similar vegetation cover. To question C, both Yorke and Noriko observed California ground squirrels on the project site. California ground squirrels construct burrows used by burrowing owls, and these two species mutually alarm-call for predators and survive better together (K. S. Smallwood, unpublished data). The answers to all three questions are affirmative. Detection surveys for burrowing owls are warranted.

Adding to the need to perform detection surveys, burrowing owls have rapidly declined throughout California. The decline has been so rapid and so substantial (Miller 2024) that the California Fish and Game Commission voted unanimously on 10 October 2024 to designate the burrowing owl a Candidate for listing under the California Endangered Species Act. Given the Candidate status assigned to the burrowing owl, there needs to be close adherence to the CDFW (2012) survey and mitigation guidelines, and CDFW needs to be consulted in order to obtain an incidental take permit.

Yorke's assessment of habitat quality was deficient for three or more special-status species. Habitat quality is typically measured by productivity metrics such as fecundity, number of young reaching breeding age, and survivorship – none of which were

measured by Yorke over such a brief survey period. It is unclear how Yorke assessed habitat quality, but it was not by applying productivity metrics.

Yorke did not meet the minimum standards of the CDFW (2018) rare plant survey guidelines. Critical shortfalls included the failure to survey the site multiple sites through the blooming season, and the failure to survey a reference site.

It is unclear how Yorke assessed the health of Joshua trees. Yorke summarized no expertise on Joshua trees.

Yorke searched for sign of historical use of the site by desert tortoise, but did not meet most of the minimum standards of the available USFWS (2017) survey guidelines (Table 3). Yorke (2023) reports having found no evidence of Mojave Desert tortoise. Yorke then suggests determining that no significant impact would result to this species from the project. However, without having completed a survey effort that is consistent with USFWS (2017) guidelines, an absence determination cannot be supported.

Table 2. *Assessment of whether 2023 site visit (Yorke 2023) achieved the standards in USFWS's (2017) recommended desert tortoise survey protocol.*

Standard in USFWS (2017)	Assessment of surveys performed	Was the standard met?
Coordinate with USFWS	No reported coordination	No
Survey entire action area	Surveyed action area	Yes
Establish 10-m wide belt transects	No map of transects reported	Yes
Examine every burrow using flashlight or mirror	No mention of surveying any burrows, nor doing so with a light or mirror	No
Record all tortoise sign	Reportedly none found	---
Prefer focused surveys over multispecies surveys	Simultaneous surveys to achieve at least 7 other objectives	No
Prefer experienced searchers	No summary of searcher experience	No
The action area is the area directly affected by the project, including roads along which the project noticeably increased traffic volume	The roads servicing the project would experience increased car traffic and needs to be assessed for potential impacts on desert tortoise	No

Yorke (2024) performed no surveys for bats, other than searching for bat roosts (yet another objective, apparently). It would have made more sense to survey for bats at night, by use of an acoustic bat detector, mist-netting, or thermal-imaging camera.

Yorke (2023) lists species of wildlife under a floral compendium at the end of his report. However, it is unclear why many of the species are listed. Those with numbers following the names are species Yorke detected during his survey, but most include letters such as s, u, o, and c. There is no explanation for these letters, nor the meaning of the species having been included in the floral compendium. Why is mountain lion on this list?

What is clear is that Yorke detected 16 species of vertebrate wildlife. Yorke detected seven species that Noriko did not, and Noriko detected 27 species that Yorke did not, but combined they detected 43 species of wildlife, including nine special-status species. It turns out that Yorke and Noriko were seeing two very different portions of the site's wildlife community. Applying the Sørensen *Index of Similarity* $= \frac{2c}{a+b}$, where a is the number of species found by Yorke, b is the number of species found by Noriko, and c is the number of species mutually found by Yorke and Noriko, the Index of Similarity of the two wildlife communities of May 2023 and September 2024 is only 0.35. For comparison, the average Index of Similarity among 40 comparisons of surveys I completed over the same time periods at the same research site in Rancho Cordova, but on different days over three years 2020-2023, was 0.755 with a high value of 0.90. A value of 0.35 between Yorke's May 2023 survey and Noriko's September 2024 survey indicates the wildlife communities between these dates differed substantially, or perhaps they differed in how Yorke and Noriko saw them. Whichever explanation is true (both are likely true), the substantial difference in survey outcomes goes to show the importance of multiple surveys to characterize the wildlife community as part of the existing environmental setting.

For any given special-status species that truly uses a site as habitat, multiple surveys are often required to detect it. Special-status species tend to be rare and cryptic. It is therefore of no information value each time Yorke (2023) states that he saw no sign of a given species, and implies that this outcome is evidence of absence. He does this for 14 of the special-status species he analysis for occurrence potential. None of these findings qualify as evidence of absence. Moreover, consider the more readily detectable species that Yorke failed to detect, such as Say's phoebe (Photos 7 and 8) and California quail (Photos 20–22). As difficult as it is to believe he could have missed these species, missing them during a single survey effort is not uncommon. Applying Yorke's standard to his survey outcome, one would conclude that these Say's phoebe and California quail are also unlikely to occur at the project site, but this conclusion would be wrong.

For the same reasons as above, the revised IS/MND inappropriately concludes that there is no nesting by birds on the site's Joshua trees. It would be accurate to report that no bird nests were observed on the Joshua trees, but is it not supportable to conclude from this lack of observations that nesting does not occur. Joshua trees provide abundant hideaways into which birds can construct nests. It is highly likely that birds do in fact nest on the Joshua trees on the project site.

Lastly, Yorke (2023) repeatedly downplays occurrence likelihoods of special-status species based on the argument that the site is disturbed. However, Yorke neglects to explain how the disturbed nature of the site would discourage use by each of the species at issue. In fact, there is no place in California that has not been disturbed in one or more ways, so if Yorke's reasoning was to be extended, California would be vacant of wildlife. And in fact, many species persist in the face of disturbances of various nature. However, development is a level of disturbance that vastly reduces species richness at a site, including the number of special-status species (Smallwood and Smallwood 2023).

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.

Yorke (2023) did not reportedly review eBird (<https://eBird.org>) or iNaturalist (<https://www.inaturalist.org>) for documented occurrence records at or near the project site. Instead, Yorke (2023) queried the California Natural Diversity Data Base (CNDDB) for documented occurrences of special-status species within an unspecified distance from the project site. By relying on the CNDDB query, Yorke (2023) screened out many special-status species from further consideration in the characterization of the wildlife community as part of the existing environmental setting. CNDDB is not designed to support absence determinations or to screen out species from characterization of a site's wildlife community. As noted by the CNDDB, *"The CNDDB is a positive sighting database. It does not predict where something may be found. We map occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present."* Yorke (2023) misused CNDDB.

The CNDDB relies entirely on volunteer reporting from biologists who were allowed access to whatever properties they report from. Many properties have never been surveyed by biologists. Many properties have been surveyed, but the survey outcomes never reported to the CNDDB. Many properties have been surveyed multiple times, but not all survey outcomes reported to the CNDDB. Furthermore, the CNDDB is interested only in the findings of special-status species, which means that species more recently assigned special status will have been reported many fewer times to CNDDB than were species assigned special status since the inception of the CNDDB. The lack of many CNDDB records for species recently assigned special status had nothing to do with whether the species' geographic ranges overlapped the project site, but rather more to do with the brief time for records to have accumulated since the species were assigned special status. And because negative findings are not reported to the CNDDB, the CNDDB cannot provide the basis for estimating occurrence likelihoods, either.

In my assessment based on database reviews and site visits, 108 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 4). Of these species, 9 (8%) were recorded on or just next to the project site, and another 24 (22%) species have been documented within 1.5 miles of the site ('Very close'), another 17 (16%) within 1.5 and 4 miles ('Nearby'), and another 49 (45%) within 4 to 30 miles ('In region'). Nearly half (46%) of the species in Table 4 have been reportedly seen within 4 miles of the project site. The site therefore supports multiple special-status species of wildlife and carries the potential for supporting many more special-status species of wildlife based on proximity of recorded occurrences. The site is far richer in special-status species than is characterized in Yorke (2023).

Table 4. 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 identify species Noriko detected.

Common name	Species name	Status ¹	IS/MND occurrence potential	Database records, Site visits
Monarch	<i>Danaus plexippus</i>	FC		Nearby
Crotch’s bumble bee	<i>Bombus crotchii</i>	CCE		Nearby
Western pond turtle	<i>Emys marmorata</i>	SSC		In region
Mojave desert tortoise	<i>Gopherus agassizii</i>	FT, CE	Habitat inappropriate	In region
Blainville’s horned lizard	<i>Phrynosoma blainvillii</i>	SSC	Soils inappropriate	In region
Northern California legless lizard	<i>Anniella pulchra</i>	SSC		In region
San Diegan legless lizard	<i>Anniella stebbinsi</i>	SSC	Disturbed habitat inappropriate	In region
Brant	<i>Branta bernicla</i>	SSC2		In region
Cackling goose (Aleutian)	<i>Branta hutchinsii leucopareia</i>	WL		In region
Redhead	<i>Aythya americana</i>	SSC2		In region
Barrow’s goldeneye	<i>Bucephala islandica</i>	SSC		In region
Western grebe	<i>Aechmophorus occidentalis</i>	BCC		Nearby
Clark’s grebe	<i>Aechmophorus clarkii</i>	BCC		In region
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FT, CE		In region
Black swift	<i>Cypseloides niger</i>	SSC3, BCC		In region
Vaux’s swift	<i>Chaetura vauxi</i>	SSC2		Nearby
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		Very close
American avocet	<i>Recurvirostra americana</i>	BCC		Nearby
Mountain plover	<i>Charadrius montanus</i>	SSC2, BCC		In region
Snowy plover	<i>Charadrius nivosus</i>	BCC		In region

Common name	Species name	Status¹	IS/MND occurrence potential	Database records, Site visits
Long-billed curlew	<i>Numenius americanus</i>	WL		Nearby
Marbled godwit	<i>Limosa fedoa</i>	BCC		Nearby
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		Nearby
Heermann's gull	<i>Larus heermanni</i>	BCC		In region
Western gull	<i>Larus occidentalis</i>	BCC		In region
California gull	<i>Larus californicus</i>	BCC, WL		Very close
California least tern	<i>Sternula antillarum browni</i>	FE, CE, CFP		In region
Black tern	<i>Chlidonias niger</i>	SSC2, BCC		In region
Common loon	<i>Gavia immer</i>	SSC		In region
Double-crested cormorant	<i>Phalacrocorax auritus</i>	WL		On site
American white pelican	<i>Pelicanus erythrorhynchos</i>	SSC1		Very close
Least bittern	<i>Ixobrychus exilis</i>	SSC2		In region
White-faced ibis	<i>Plegadis chihi</i>	WL		Very close
California condor	<i>Gymnogyps californianus</i>	FE, CE, CFP		In region
Turkey vulture	<i>Cathartes aura</i>	BOP		Very close
Osprey	<i>Pandion haliaetus</i>	WL, BOP		Nearby
White-tailed kite	<i>Elanus luecurus</i>	CFP, BOP		In region
Golden eagle	<i>Aquila chrysaetos</i>	BGEPA, CFP, BOP, WL	Impacts unlikely	Nearby
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	Impacts unlikely	On site
Bald eagle	<i>Haliaeetus leucocephalus</i>	CE, BGEPA, BOP		In region
Red-shouldered hawk	<i>Buteo lineatus</i>	BOP		Very close
Swainson's hawk	<i>Buteo swainsoni</i>	CT, BOP	Impacts unlikely	Very close
Red-tailed hawk	<i>Buteo jamaicensis</i>	BOP		Just off site, on site
Ferruginous hawk	<i>Buteo regalis</i>	WL, BOP	Impacts unlikely	Very close

Common name	Species name	Status¹	IS/MND occurrence potential	Database records, Site visits
Rough-legged hawk	<i>Buteo lagopus</i>	BOP		Nearby
American barn owl	<i>Tyto furcata</i>	BOP		Nearby
Western screech-owl	<i>Megascops kennicotti</i>	BOP		In region
Great horned owl	<i>Bubo virginianus</i>	BOP		Very close
Burrowing owl	<i>Athene cunicularia</i>	BCC, SSC2, BOP, CCE	Low	Very close
Long-eared owl	<i>Asio otus</i>	BCC, SSC3, BOP	Impacts unlikely	In region
Short-eared owl	<i>Asia flammeus</i>	BCC, SSC3, BOP	Habitat largely unsuitable	In region
Lewis's woodpecker	<i>Melanerpes lewis</i>	BCC		In region
Nuttall's woodpecker	<i>Picoides nuttallii</i>	BCC		Just off site
American kestrel	<i>Falco sparverius</i>	BOP		On site
Merlin	<i>Falco columbarius</i>	WL, BOP		On site
Peregrine falcon	<i>Falco peregrinus</i>	BOP		Very close
Prairie falcon	<i>Falco mexicanus</i>	WL, BOP	Impacts unlikely	On site
Olive-sided flycatcher	<i>Contopus cooperi</i>	BCC, SSC2		Very close
Willow flycatcher	<i>Empidonax trailii</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
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE, CE		In region
Gray vireo	<i>Vireo vicinior</i>	SSC2		In region
Loggerhead shrike	<i>Lanius ludovicianus</i>	SSC2	Marginal	On site
Oak titmouse	<i>Baeolophus inornatus</i>	BCC		Nearby
Verdin	<i>Auriparus flaviceps</i>	BCC		Very close
California horned lark	<i>Eremophila alpestris actia</i>	WL	No significant impacts	Very close
Bank swallow	<i>Riparia riparia</i>	CT		Nearby
Purple martin	<i>Progne subis</i>	SSC2		Very close
Wrentit	<i>Chamaea fasciata</i>	BCC		In region
Black-tailed gnatcatcher	<i>Polioptila melanura</i>	WL		In region

Common name	Species name	Status ¹	IS/MND occurrence potential	Database records, Site visits
Bendire's thrasher	<i>Toxostoma bendirei</i>	SSC3, BCC		In range
California thrasher	<i>Toxostoma redivivum</i>	BCC		Nearby
LeConte's thrasher	<i>Toxostoma lecontei</i>	SSC1, BCC	Habitat inappropriate	Nearby
Cassin's finch	<i>Haemorhous cassinii</i>	BCC		In region
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		In region
Gray-headed junco	<i>Junco hyemalis caniceps</i>	WL		In region
Bell's sparrow	<i>Amphispiza b. belli</i>	WL	Habitat inappropriate	In region
Oregon vesper sparrow	<i>Pooecetes gramineus affinis</i>	SSC2		In range
Southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	WL		In region
Yellow-breasted chat	<i>Icteria virens</i>	SSC3		In region
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC3		Nearby
Bullock's oriole	<i>Icterus bullockii</i>	BCC		Just off site
Tricolored blackbird	<i>Agelaius tricolor</i>	CT, BCC, SSC1		Very close
Lucy's warbler	<i>Leiothlypis luciae</i>	SSC3, BCC		In region
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		In region
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
Silver-haired bat	<i>Lasionycteris noctivagans</i>	WBWG:M		In range
Spotted bat	<i>Euderma maculatum</i>	SSC, WBWG:H		In range
Hoary bat	<i>Lasiurus cinereus</i>	WBWG:M		In region
Small-footed myotis	<i>Myotis cililabrum</i>	WBWG:M		In region
Yuma myotis	<i>Myotis yumanensis</i>	WBWG:LM		In range
Western mastiff bat	<i>Eumops perotis</i>	SSC, WBWG:H		In range

Common name	Species name	Status¹	IS/MND occurrence potential	Database records, Site visits
San Diego black-tailed jackrabbit	<i>Lepus californicus bennettii</i>	SSC		In range
Mohave ground squirrel	<i>Xerospermophilus mohavensis</i>	CT	No significant impact	In region
Los Angeles pocket mouse	<i>Perognathus longimembris brevinasus</i>	SSC		In region
American badger	<i>Taxidea taxus</i>	SSC	Impacts unlikely	In region

¹ Listed on Special Animals List (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406>) as FT or FE = federal threatened or endangered, FC = federal candidate for listing, CCT or CCE = Candidate California threatened or endangered, CFP = California Fully Protected (California Fish and Game Code 3511), SSC = California Species of Special Concern (see Shuford and Gardali 2008 for numbers indicating priority of concern), CT or CE = California threatened or endangered, 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, and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively, per Shuford and Gardali 2008), WL = Taxa to Watch List, and WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H); listed by U.S. Fish and Wildlife Service (<https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf>) as BCC = Bird of Conservation Concern; as protected as BOP = Birds of Prey (California Fish and Game Code 3503.5, see <https://wildlife.ca.gov/Conservation/Birds/Raptors>), and as CSD1 and CSD2 = Group 1 and Group 2 species on County of San Diego Sensitive Animal List (County of San Diego 2010).

Only 17 (16%) of the species in Table 4 are analyzed for occurrence potential in Yorke (2023), having omitted from its analysis 92 (84%) of the species in Table 4. Of the species omitted from Yorke's analysis, three have been recorded on or just next to the project site, 23 have been recorded within 1.5 miles of the site, 16 have been recorded within four miles of the site, and 41 have been recorded between 4 and 30 miles of the site. Of the species analyzed for occurrence likelihood by Yorke (2023), only two are determined to have potential to occur, including one assigned low potential and one assigned marginal potential; the rest are reported to lack appropriate habitat or impacts are unlikely. Of the 17 species in Table 4 that Yorke (2023) determines unlikely, Noriko saw loggerhead shrike on the project site, and occurrence records place six within 1.5 miles, two between 1.5 and 4 miles of the site, and eight between 4 and 30 miles from the site. On the whole, Yorke (2023) analyses of occurrence likelihoods are too inaccurate to serve as a baseline for performing impacts analysis.

POTENTIAL BIOLOGICAL IMPACTS

An impacts analysis should consider whether and how a proposed project would affect members of a species, larger demographic units of the species, the whole of a species, and ecological communities. The accuracy of this analysis depends on an accurate characterization of the existing environmental setting. In the case of the proposed project, the existing environmental setting has not been accurately characterized, and several important types of potential project impacts have been inadequately analyzed. These types of impacts include habitat loss, interference with wildlife movement, and wildlife-automobile collision mortality.

HABITAT LOSS

Habitat loss not only results in the immediate numerical decline of wildlife, but it also results in permanent loss of productive capacity. Habitat fragmentation multiplies the negative effects of habitat loss on the productive capacities of biological species (Smallwood 2015). 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. The alternative method would be to infer productive capacity from estimates of total nest density elsewhere.

Several studies have estimated total avian nest density at locations that had likewise been highly fragmented. Two study sites in grassland/wetland/woodland complexes within agricultural matrices 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, Noriko and I surveyed various patches of vegetation cover in northern and southern California throughout the breeding seasons of 2023 and 2024. The most relevant study sites to the vegetation covers on the project site consisted of a 4.83-acre patch of grassland in Murrieta, CA, where Noriko estimated 0.62 nests/acre in 2024, and a 3.13-acre patch of grassland in Murrieta, CA, where she estimated 3.8 nests/acre. Applying the mean of these estimates to the 10 acres of the project site would predict 22 nest sites on the project site. Assuming 1.39 broods per

nest site, which is the average among 322 North American bird species I asked Noriko to review, then I predict the project would cost California 30 nest attempts/year.

The loss of 22 nest sites and 30 nest attempts per year would qualify as significant impacts that have not been analyzed by the City. But the impacts would not end with the immediate loss of nest sites. 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 87 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): $\{(nests/year \times chicks/nest \times number\ of\ years) + (2\ adults/nest \times nests/year) \times (number\ of\ years \div years/generation)\} \div (number\ of\ years) = 96\ birds\ per\ year\ denied\ to\ California.$

Most if not all of the predicted 96 birds per year lost to the project are protected by the federal Migratory Bird Treaty Act and by California's Migratory Bird Protection Act, both of which most strongly protect breeding migratory birds. At least a fair argument can be made for the need to prepare and EIR to appropriately analyze the potential impacts resulting from habitat loss and habitat fragmentation.

INTERFERENCE WITH WILDLIFE MOVEMENT

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would interfere with wildlife movement in the region. Unfortunately, Yorke's (2023) analysis of whether the project would interfere with wildlife movement in the region is flawed and misleading. Based on a paucity of lizards found by and few tracks of mammals Yorke (2023) concludes that the site is a habitat island that provides no wildlife movement corridor. One problem with Yorke's conclusion is that it focuses solely on non-volant, terrestrial wildlife. Volant wildlife are also in need of opportunities to stopover and stage along flight routes.

Whether the site functions as a wildlife movement corridor or is located within a corridor is not the only consideration when it comes to the standard CEQA Checklist question of whether the project would interfere with wildlife movement in the region. The primary phrase of the CEQA standard goes to wildlife movement regardless of whether the movement is channeled by a corridor. Birds are obviously using the site, so they are able to travel to and from the site. Most of the birds recorded at the site are migratory birds, and the site is one of the last remaining patches of open space available to any of these and other birds that need to move through the region. The project site is important to wildlife movement in the region.

TRAFFIC IMPACTS TO WILDLIFE

Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic to get to and from the project site (Photos 24–26), 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.

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.

Photo 24. *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 25. *Raccoon killed on Road 31 just east of Highway 505 in Solano County. Photo taken on 10 November 2018.*



Photo 26. Mourning dove killed by vehicle on a California road. Photo by Noriko Smallwood, 21 June 2020.



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 City's IS reports no prediction of annual VMT, but I can infer the annual VMT from the average of annual VMT predicted for three other projects I reviewed as an expert. For hotels, the average annual VMT per square foot of floor space has been 59.44. Assuming 325 square feet per room, the 235-room hotel would generate about 4,539,926 annual VMT. For apartments, the average annual VMT per square foot of floor space has been 26. Assuming 950 square feet per apartment unit, the 181 apartment units would generate about 4,471,978 annual VMT. I have no basis for estimating annual VMT resulting from the restaurants, retail and clubhouse, so I will ignore annual VMT resulting from these elements of the project.

The annual VMT resulting from the hotel and apartment units alone would be predicted at 9,011,904. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of wildlife fatalities was $19,500 \text{ cars and trucks} \times 2.5 \text{ miles} \times 365 \text{ days/year} \times 1.25 \text{ years} = 22,242,187.5 \text{ vehicle}$

miles per 9,462 wildlife fatalities, or 2,351 vehicle miles per fatality. This rate divided into the predicted annual VMT would predict 3,833 vertebrate wildlife fatalities per year.

Based on my analysis, the project-generated traffic would cause substantial, significant impacts to wildlife. The City does not analyze this potential impact, nor does it 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. A fair argument can be made for the need to prepare an EIR to appropriately analyze the potential impacts of project-generated automobile traffic on wildlife.

BIRD-WINDOW COLLISIONS

The project would add 181 apartment units, a 235-room hotel and three additional buildings to open space that is currently habitat to birds. These new buildings would present glass windows to birds attempting to use an essential portion of their habitat – that portion of the gaseous atmosphere that is referred to as the aerosphere (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 and Yorke's (2023) site visits indicate there are 90 special-status species of birds with potential to use the site's aerosphere (Table 3). All of the birds represented in Table 3 can quickly fly from wherever they have been documented to the project site, so they would all be within brief flights to 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 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.

In the case of the project site, Noriko Smallwood recorded 283 bird flights of 18 species during her 3 April 2025 surveys, 184 flights in the morning, and 99 in the evening. The flights of these birds ranged from ground level to 91 m above ground. Of the flights she observed, 242 (86%) were within the height of the proposed tallest of the buildings. And of these flights, 75% were headed north or south, and only 25% were headed east or west, indicating that if the project goes forward, collision risk could be minimized by facing most of the glass windows in east-west directions rather than north-south.

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 provides no renderings or drawings of the proposed buildings, so I was unable to measure windows directly from drawings. However, the dimensions of the buildings are reported in a site plan. According to the site plan, there would be 13,416 m² of building façades. Assuming 50% of these façades would be glass, then the extent of exterior glass in the project would be 6,708 m². Based on this area of external glass, I predict annual bird deaths of 490 (95% CI: 291–690).

The vast majority of these predicted deaths would be of birds protected under the Migratory Bird Treaty Act and under the California Migratory Bird Protection Act, 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, including the unmitigated take of both terrestrial and aerial habitat of birds and other sensitive species. Not only would the project take habitat of rare and sensitive species of birds, but it would transform the building's airspace into a lethal collision trap to birds. At least a fair argument can be made for the need to prepare an EIR to appropriately analyze the potential impacts of bird-window collision mortality, and to formulate appropriate mitigation measures.

CUMULATIVE IMPACTS

The cumulative impacts analysis is fundamentally flawed. According to the IS/MND (p. 64), "Impacts associated with these issues would be less than significant with the incorporation of the identified mitigation measures. Many of the impacts generated by projects are site specific and generally do not influence the impacts on another site. All projects undergo environmental review and require mitigation measures to reduce impacts when warranted. These mitigation measures reduce environmental impacts to less than significant levels whenever possible. Therefore, the project's contribution to cumulative impacts would be less than significant." The argument in the IS/MND rejects CEQA's concept of cumulative impacts by asserting that many project impacts are site-specific and generally do not influence the impacts of other projects. Furthermore, it implies that the mitigation proposed for project-level impacts would leave no residual impacts that could be considered cumulatively considerable. That is, the IS/MND implies that cumulative impacts are really just residual impacts left over by inadequate mitigation of project-level 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.

The project is predicted to deny California 96 birds annually due to habitat loss, to cause 3,833 vertebrate wildlife fatalities due to vehicle collisions annually, and 490 (95% CI: 291–690) bird-window collision fatalities annually. These are predictable large impacts

to wildlife, and none are mitigated in the IS/MND. At least a fair argument can be made for the need to prepare an EIR to appropriately analyze the project's potential contributions to cumulative impacts of habitat loss, habitat fragmentation, interference with wildlife movement in the region, collision mortality of wildlife caused by project-generated traffic, and bird-window collision mortality, and to formulate appropriate mitigation measures.

MITIGATION

The IS/MND requires three mitigation measures, but these measures are either inappropriate or inadequate.

2. and 3. Obtain and comply with a Western Joshua Tree Conservation Act permit from the California Department of Fish and Wildlife to remove the Joshua trees on the project site

Obtaining a necessary take permit is not a legitimate mitigation measure. This measure accomplishes no conservation benefit, as it does not explain how it would avoid or minimize impacts nor, does it explain how it would compensate for impacts. CDFW might require avoidance or minimization measures, or it might require compensation, but such requirements remain uncommitted. Even if CDFW requires compensation, the details of the compensation need to be summarized in the CEQA document so that the public and decision-makers have the opportunity to meaningfully consider the measure.

4. Preconstruction nesting bird survey within 14 days prior to construction

Whereas a preconstruction nesting bird survey should be completed, it needs to be understood that a preconstruction survey achieves very little. Preconstruction, take-avoidance surveys consist of two steps, both of which are very difficult. First, the biologist(s) performing the survey must identify birds that are breeding. Second, the biologist(s) must locate the breeding birds' nests. The first step is typically completed by observing bird behaviors such as food deliveries and nest territory defense. These types of observations typically require many surveys on many dates spread throughout the breeding season, and these observations are to find the nest sites of single targeted species such as burrowing owl (Smallwood et al. 2013) or loggerhead shrike (Smallwood and Smallwood 2021). To identify the birds of all species nesting on a site requires a much greater survey effort than a single survey only days prior to the start of construction. The biologists conducting the preconstruction survey would be very lucky to find any of the bird nests that are available to be found at the time of the survey.

Another reason why preconstruction surveys achieve very little is because the nests they might salvage are only the nests of the year. Preconstruction surveys can do nothing to mitigate the loss of productive capacity that ensues construction. All subsequent years of productivity would be destroyed by the project regardless of the success of a preconstruction survey. Preconstruction surveys achieve little mitigation of the impacts I predict above under Habitat Loss.

5. Pre-construction burrowing owl clearance survey within 30 days prior to construction in accordance with the methods outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012)

As I commented earlier, there is no such survey as a clearance survey. Furthermore, the language of the mitigation measure falsely implies that a preconstruction survey conducted without having first completed detection surveys could be consistent with the CDFW (2012) survey and mitigation guidelines. As I commented earlier, CDFW's (2012) recommended surveys are intended to be completed in a specific chronological sequence, each type of survey contributing to the efficacy of the next type of survey. These three types of survey are intended for different purposes and they carry different detection probabilities. Breeding-season detection surveys per CDFW (2012) are the most rigorous type of survey, and are intended to not only support an impacts analysis, but also to support the preconstruction survey. The breeding-season surveys carry the highest probability of detection of burrowing owls, and therefore are most suited to informing biologists where best to find burrowing owls during the preconstruction survey. Performing a preconstruction survey without the aid of a breeding-season survey would be out of sequence of the survey chronology advocated by CDFW (2012) and would disadvantage the biologists as to where burrowing owls are located.

6. Perform a pre-construction survey “to determine presence of north California legless lizard”

As noted above, a pre-construction survey is not the same type of survey as a detection survey. It is inappropriate to rely on a pre-construction survey as if it is a detection survey, as detection surveys are performed in the appropriate time of year and are forced into the 72 hours just prior to construction activities.

RECOMMENDED MEASURES

Construction Monitoring: Should the project go forward, qualified biologists should be required to monitor construction impacts to wildlife. However, it should also be required that the monitor completes a report of the findings of construction monitoring. All cases of potential construction harm to wildlife should be reported to US Fish and Wildlife/California Department of Fish and Wildlife, and to the City, along with what was done to prevent or minimize or rectify injuries. All injuries and fatalities should be reported to the same parties, along with the disposition of any remains. The report be made available to the public.

Pest Control: The Project should commit to no use of rodenticides and avicides. It should commit to no placement of poison bait stations outside the building.

Guidelines on Building Design to Minimize Bird-Window Collisions: If the Project goes forward, it should 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.

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). For example, Feather Friendly® circular adhesive markers applied in a grid pattern across all windows reduced bird-window collision mortality by 95% in one study (Riggs et al. 2023) and by 95% in another (de Groot et al. 2021). Another study tested the efficacy of two filmshades to be applied exteriorly to windows prior to installations: BirdShades increased bird-window avoidance by 47% and Haverkamp increased avoidance by 39% (Swaddle et al. 2023).

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 newly constructed buildings or homes for fatalities.

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by project-generated road traffic in the region. I suggest that this mitigation 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 automobiles and windows and by depredation attempts by house cats and dogs.

Landscaping: If the Project goes forward, California native plant landscaping (i.e., grassland and locally appropriate scrub plants) should be considered to be used as opposed to landscaping with lawn and exotic shrubs and trees. Native plants offer more structure, cover, food resources, and nesting substrate for wildlife than landscaping with lawn and ornamental trees. Native plant landscaping has been shown to increase the abundance of arthropods which act as importance 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.

LITERATURE CITED

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EXHIBIT B



April 15, 2025
24221-00

Richard Drury
Lozeau Drury LLP
1939 Harrison St., Suite 150
Oakland, CA 94612

Subject: Review of Air Quality and Noise Impacts Analyzed in the Revised Initial Study for the Westlanc Partners Mix-Used Development in the City of Lancaster

Dear Mr. Richard:

Baseline Environmental Consulting (Baseline) previously reviewed the Air Quality and Noise sections of the Initial Study prepared for a mixed-used development (project) proposed by Westlanc Partners, LLC at the southeast corner of Avenue L and 15th Street West in Lancaster, California (site). Based on our review, Baseline submitted a comment letter dated September 17, 2024 (**Attachment A**), that described how the Initial Study substantially understated and failed to fully analyze the severity and extent of the project's significant effects related to air quality and noise.

A Revised Initial Study has since been prepared for the proposed project. However, many of the air quality and noise comments and concerns previously identified by Baseline have not been addressed. As described below, we have identified specific air quality and noise concerns and potentially significant impacts that require additional assessment and mitigation.

Criteria Air Pollutant Emissions

The Revised Initial Study used the California Emissions Estimator Model (CalEEMod) to estimate the criteria air pollutant emissions that would be generated by the project. According to page 16 of the Revised Initial Study, the project will generate 3,656 daily trips. However, according to the CalEEMod report included in the air quality study prepared by Metropolis Architecture, Inc.,¹ it was assumed that the project would generate 23 to 698 vehicle trips per day (**Table 1**). In other words, the air quality analysis underestimated the criteria air pollutant emissions from the project's daily vehicle trips by analyzing less than 20% of the project's total daily vehicle trips.

In addition, the air quality study evaluated emissions from an "unrefrigerated warehouse – no rail" and a "user defined industrial" land use (as shown in **Table 1**). The CalEEMod report did not analyze

¹ Metropolis Architecture, Inc, 2024. Air Quality and Greenhouse Gas Emissions Analysis Report for a 10.126 Acre Commercial Project Development in City of Lancaster, California. August 15.

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emissions from the project's proposed hotel, mid-rise apartments, restaurants, health club, swimming pool, enclosed parking structures, and parking lot. No explanation is provided in the Revised Initial Study for why emissions were calculated for land uses types that are not representative of the proposed project. Finally, the maximum daily operational emissions of criteria air pollutants estimated in the CalEEMod report prepared by Metropolis Architecture, Inc. do not match the results summarized in Table 5 of the Revised Initial Study (page 16). These discrepancies appear to be due to significant errors in the preparation of the CalEEMod report. As a result, there is no substantial evidence to support the analysis of criteria air pollutant impacts presented in the Revised Initial Study.

Table 1. Summary of Daily Vehicle Trips Analyzed in CalEEMod for the Revised Initial Study

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday
Unrefrigerated Warehouse-No Rail	608	51.4	20.6
User Defined Industrial	90.0	7.62	3.04
Parking Lot	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00

Source: Metropolis Architecture, Inc, 2024. Air Quality and Greenhouse Gas Emissions Analysis Report for a 10.126 Acre Commercial Project Development in City of Lancaster, California. August 15.

Air Quality Health Risks

Regarding the exposure of sensitive receptors to substantial pollutant concentrations, the Revised Initial Study states the following on page 16:

Based on the Vehicle Miles Traveled analysis prepared for the proposed project, the development would generate a total of 3,656 net daily trips. These trips would generate emissions; however, the amount of traffic generated by the project is not sufficient to significantly impact nearby intersections or roadways and create or contribute considerably to violations of air quality standards on either a localized or regional basis. Therefore, substantial pollutant concentrations would not occur and impacts would be less than significant.

The Revised Initial Study provides no evidence to support the claim that generating 3,656 net trips per day would not expose nearby sensitive receptors to substantial pollutant concentrations.

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According to a study prepared for the San Francisco *Air Quality and Greenhouse Gas Analysis Guidelines*,² projects that would generate more than 1,150 vehicle passenger trips per day could pose significant mobile-source health risks and should prepare a detailed health risk analysis. The vehicle trips generated by the proposed project are well above the screening-level threshold established (and supported by substantial evidence) for the City of San Francisco.

In addition, the Revised Initial Study failed to evaluate potential health risks associated with emissions of diesel particulate matter (DPM) during project construction. Project construction would generate DPM emissions from the exhaust of off-road diesel construction equipment. Sensitive receptors within 500 feet of the project site include residential homes to the south, southwest, west, and northwest, which could be exposed to DPM emissions generated during project construction.

According to the Office of Environmental Health Hazard Assessment (OEHHA), cancer risk should not be estimated for projects lasting less than two months due to the uncertainty in assessing very short-term exposures.³ Based on the CalEEMod results, the duration of project construction is expected to last approximately 14 months, which is substantially longer than the two-month limitation for short-term exposures recommended by OEHHA. OEHHA also states that there is valid scientific concern that the rate of short-term exposure may influence the risk – in other words, a higher exposure to a carcinogen over a short period of time may be a greater risk than the same total exposure spread over a much longer period. Therefore, a health risk assessment should be performed to estimate the incremental increase in cancer risk for nearby sensitive receptors exposed to short-term DPM emissions during project construction in accordance with the OEHHA guidance.

The Revised Initial Study failed to provide substantial evidence to support the significance determination for nearby sensitive receptors exposed to substantial DPM emissions generated during project construction. Baseline previously prepared a limited health risk analysis to estimate the incremental increase in cancer risk for nearby sensitive receptors exposed to DPM emissions during project construction (**Attachment A**). According to Baseline's previous health risk analysis, project construction emissions of DPM would result in an estimated cancer risk of 11.9 in a million at the nearest sensitive receptor, which is above the Antelope Valley Air Quality Management District's (AVAQMD) threshold of 10 in a million. Therefore, project construction could expose sensitive receptors to substantial pollutant concentrations and the air quality impact would be potentially significant and require mitigation.

² San Francisco Planning, 2024. Air Quality and Greenhouse Gas Analysis Guidelines. <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>. July.

³ Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February.

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Noise Impacts

The Revised Initial Study includes Mitigation Measure 22 (page 51) that requires the applicant to prepare a construction and operational noise study that identifies the existing /future noise and any necessary design features to ensure that noise levels at adjacent residences do not exceed 65 dBA during construction or operation. However, the Revised Initial Study does not evaluate and disclose the severity of potential noise impacts associated with implementation of the project, nor does it evaluate the feasibility for mitigation measures to reduce the impact to a less-than-significant level.

As described in Baseline's previous comment letter (**Attachment A**), pile driving for construction for the proposed underground parking garages would generate noise levels as high as 79 dBA Leq (86 dBA Lmax) at the nearest sensitive receptor, which exceeds the City's threshold of 65 dBA. The Revised Initial Study does not evaluate this potentially significant noise impact nor does it evaluate if Mitigation Measure 22 can effectively reduce this impact to a less-than-significant level. There are additional mitigation measures that could be considered and evaluated for pile driving depending on the building design and geotechnical specifications (e.g., silent pile drivers), but the Revised Initial Study has improperly deferred the analysis and mitigation of noise impacts to a later date.

Conclusions

Based on our review, the Revised Initial Study substantially understates and fails to fully analyze the severity and extent of the project's significant effects related to air quality and noise. Baseline has performed a limited analysis of specific air quality and noise effects and identified potentially-significant impacts that require detailed evaluations and mitigation. Therefore, Baseline recommends that the City of Lancaster prepare an Environmental Impact Report to evaluate and mitigate the air quality and noise impacts described above.

Sincerely,



Patrick Sutton
Principal Environmental Engineer

ATTACHMENT A

**Baseline Comment Letter
Dated September 17, 2024**



September 17, 2024
24221-00

Richard Drury
Lozeau Drury LLP
1939 Harrison St., Suite 150
Oakland, CA 94612

Subject: Review of Air Quality and Noise Impacts Analyzed in the Initial Study for the Westlanc Partners Mix-Used Development in the City of Lancaster

Dear Mr. Richard:

Baseline Environmental Consulting (Baseline) has reviewed the Air Quality and Noise sections of the Initial Study prepared for a proposed mixed-used development (project) at the southeast corner of Avenue L and 15th Street West in Lancaster, California (site). The project is being proposed by Westlanc Partners, LLC and is referenced as Conditional Use Permit No. 21-001, Tentative Tract Map No. 24-001, General Plan Amendment No. 21-001, Zone Change No. 21-001. The project would consist of a 235-room hotel; two apartment buildings with a total of 181 units; three restaurant/retail pads totaling 12,800 square feet; and a 3,800 square foot club house associated with the hotel.

Based on our review, the Initial Study substantially understates and fails to fully analyze the severity and extent of the project's significant effects related to air quality and noise. As a result, the Initial Study is inadequate as an informational document and violates the minimum standards of adequacy under the State CEQA guidelines. As described below, we have evaluated specific air quality and noise concerns and identified potentially significant impacts that require additional assessment and mitigation.

Inadequate Analysis of Air Quality Impacts

Criteria Air Pollutants

Regarding emissions of criteria air pollutants during project construction, the Initial Study states the following on page 14:

Construction of the proposed project would generate air emissions associated with grading, use of heavy equipment, construction workers vehicles, etc. However, the emissions are not anticipated to exceed the established thresholds due to the size and type of the proposed project.

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The Initial Study provides no evidence to support the claim that emissions of criteria air pollutants during project construction would not exceed the Antelope Valley Air Quality Management District's (AVAQMD) thresholds of significance.

Regarding emissions of criteria air pollutants during project operation, the Initial Study states the following on page 14:

The proposed project is anticipated to generate approximately 4,500 net vehicle trips per day, although the numbers are being finalized. These trips would generate air emissions; however, the amount of emissions from the estimated vehicle trips would not be sufficient to create or significantly contribute towards violations of air quality standards.

Again, the Initial Study provides no evidence to support the claim that emissions of criteria air pollutants during project operation would not exceed the AVAQMD's thresholds of significance.

Some Air Districts develop screening criteria to provide lead agencies with a conservative indication of whether implementing a proposed project could result in potentially significant criteria air pollutants impacts: the AVAQMD has not developed such screening criteria. For example, the Bay Area Air Quality Management District's screening criteria¹ recommend that projects with extensive soil transport or hotels with more than 230 rooms prepare a detailed analysis of criteria air pollutant emissions. The project meets both criteria, as it would include the construction of 235 hotel rooms and generate a substantial number of haul trips to remove soils excavated from the proposed subterranean garages.

On page 14 of the Initial Study, it is noted that a detailed air quality analysis is being prepared and will be attached to the final Initial Study. However, at this time, there is no substantial evidence on record to support the project's significance determination related to criteria air pollutant emissions.

Local Community Health Risks

Regarding the exposure of sensitive receptors to substantial pollutant concentrations, the Initial Study states the following on page 14:

The proposed project is estimated to generate approximately 4,500 net trips per day (final numbers to be determined). These trips would generate emissions; however, the amount of traffic generated by the project is not sufficient to significantly impact nearby intersections or roadways and create or contribute considerably to violations of air quality standards on

¹ Bay Area Air Quality Management District, 2023. CEQA Air Quality Guidelines. <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>. April 20.

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either a localized or regional basis. Therefore, substantial pollutant concentrations would not occur and impacts would be less than significant.

The Initial Study provides no evidence to support the claim that generating 4,500 net trips per day would not expose nearby sensitive receptors to substantial pollutant concentrations. According to a study prepared for the San Francisco Air Quality and Greenhouse Gas Analysis Guidelines,² projects that would generate more than 1,150 vehicle passenger trips per day could pose significant mobile-source health risks and should prepare a detailed health risk analysis.

In addition, the Initial Study failed to discuss potential health risks associated with emissions of diesel particulate matter (DPM) during project construction. In 1998, the California Air Resources Board identified DPM from diesel-powered engines as a toxic air contaminant (TAC) based on its potential to cause cancer and other adverse health effects.³ Adverse health effects associated with particulate matter can vary based on factors such as particle size, source, and chemical composition. DPM is typically composed of carbon particles and a variety of organic compounds including more than 40 known cancer-causing organic substances. Additionally, over 90 percent of DPM is less than 1 micron in diameter and can deposit in the deepest regions of the lungs where the lungs are most susceptible to injury.

Project construction would generate DPM emissions from the exhaust of off-road diesel construction equipment. Sensitive receptors within 500 feet of the project site include residential homes to the south, southwest, west, and northwest, which could be exposed to DPM emissions generated during project construction. The Initial Study failed to provide substantial evidence to support the significance determination for nearby sensitive receptors exposed to substantial DPM emissions generated during project construction.

As described below, Baseline has prepared a limited health risk analysis to estimate the incremental increase in cancer risk for nearby sensitive receptors exposed to DPM emissions during project construction.

Construction Health Risk Analysis

Emissions of DPM during project off-road equipment used during project construction were estimated using the most current version of the California Emissions Estimator Model (CalEEMod Version 2022.1). For this analysis, emissions of coarse particulate matter (PM10) from the exhaust

² San Francisco Planning, 2024. Air Quality and Greenhouse Gas Analysis Guidelines. <https://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=72bb6e9d49e774a7ec801de9b352c380494cb122861639eebc8a2a150bc02f87&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0>. July.

³ California Air Resources Board, 1998. Initial Statement of Reasons for Rulemaking; Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, June.

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of off-road equipment were used as a surrogate for DPM. CalEEMod uses widely accepted models for emission estimates combined with appropriate default data for a variety of land-use projects that can be used if site-specific information is not available. A summary of the assumptions for estimating construction emissions is provided in **Table 1**. A copy of the CalEEMod report for the proposed project, which summarizes the input parameters, assumptions, and findings, is included as **Attachment A**.

Table 1. Summary of CalEEMod Construction Input Parameters

CalEEMod Input Category	Construction Assumptions and Changes to Default Data
Construction Schedule	Construction was assumed to commence in January 2025. The default construction schedule was modified to remove demolition activities and add excavation for the proposed subterranean garages.
Construction Equipment	Construction equipment was added for the proposed excavation of the subterranean garages, including excavators and loaders for soil removal and drill rigs (to represent pile drivers) for pile installations. Default construction equipment was used for all other phases.

Notes: Default CalEEMod data was used for all other parameters not described.

Source: California Emissions Estimator Model (CalEEMod), Attachment A.

According to the Office of Environmental Health Hazard Assessment (OEHHA), cancer risk should not be estimated for projects lasting less than two months due to the uncertainty in assessing very short-term exposures.⁴ Based on the CalEEMod results, the duration of project construction is expected to last approximately two years, which is substantially longer than the two-month limitation for short-term exposures recommended by OEHHA. OEHHA also states that there is valid scientific concern that the rate of short-term exposure may influence the risk – in other words, a higher exposure to a carcinogen over a short period of time may be a greater risk than the same total exposure spread over a much longer period. Therefore, a health risk assessment should be performed to estimate the incremental increase in cancer risk for nearby sensitive receptors exposed to short-term DPM emissions during project construction in accordance with the OEHHA guidance.

The annual average concentrations of DPM during construction were estimated in the vicinity of the project using the U.S. Environmental Protection Agency's AERMOD air dispersion model. Exhaust DPM emissions from off-road diesel construction equipment were obtained from the CalEEMod results (**Attachment A**). The input parameters and assumptions used for estimating emission rates of DPM from off-road diesel construction equipment are provided in **Attachment B**.

⁴ Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February.

Daily emissions from construction were assumed to primarily occur over an 8-hour construction workday from 8:00 AM to 4:00 PM Monday through Friday. The exhaust from off-road equipment were represented in the AERMOD model as multiple area sources encompassing the proposed building locations with a cumulative unit-emission rate equal to 1 gram per second. The air dispersion results based on the unit-emission rate were later converted using the actual emission rate estimated for the project.

A uniform grid of receptors spaced 50 meters apart with receptor heights at ground-level was encompassed around the project site as a means of developing isopleths (i.e., concentration contours) that illustrate the air dispersion pattern from the various emission sources. Discrete ground-level receptors were also placed at residential homes within 500 feet of the project site. The AERMOD model input parameters included five years of AVAQMD meteorological data from the General William J. Fox Airfield Airport station located about 6.5 miles northwest of the project site.

Based on the annual average concentrations of DPM estimated using the air dispersion model, the potential cancer risk was evaluated for the maximally exposed individual resident (MEIR) located in a single-family home about 150 feet southwest of the project site. The incremental increase in cancer risk from on-site DPM emissions during construction was assessed for an infant exposed to DPM starting from birth. This exposure scenario represents the most sensitive individual who could be exposed to adverse air quality conditions in the vicinity of the project site. It was assumed that the MEIR would be exposed to an annual average DPM concentration over the entire estimated duration of construction. The input parameters and results of the health risk assessment are included in **Attachment B**.

Table 2 summarizes the estimated net increase in cancer risk at the MEIR from exposure to unmitigated DPM emissions during project construction. The estimated cancer risk at the MEIR during project construction emissions is 11.9 in a million, which is above the AVAQMD's threshold of 10 in a million. Therefore, project construction could expose sensitive receptors to substantial pollutant concentrations and the impact would be potentially significant.

Table 2. Health Risks at MEIR During Project Construction

Construction	Cancer Risk (per million)
Unmitigated Emissions	11.9
Thresholds of Significance	10
Thresholds Exceedance?	Yes

Source: See Attachment B

It should be noted that this health risk analysis is limited only to construction emissions of DPM and does not include other potential sources of TACs that may be associated with the project, such as

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emergency generators which are commonly used at hotels to ensure guest safety and comfort during outages.

Inadequate Analysis of Noise Impacts

Regarding noise impacts during project construction, the Initial Study states the following on pages 41 and 42:

... all construction activities would occur in accordance with the City's noise ordinance with respect to days of the week and time of day. Additionally, construction best management practices have been identified to reduce the noise generated by construction activities to the extent feasible. With incorporation of these measures, construction noise may still be audible but would not exceed established standards and impacts would be less than significant.

The Initial Study does not identify the established noise standards that the project would need to achieve during construction to ensure that noise impacts are less than significant. In addition, the Initial Study does not evaluate if it would be feasible to achieve those noise standards with implementation of the proposed mitigation measures.

As stated on page 41 of the Initial Study, the City's General Plan (Table 3-1) establishes a maximum outdoor noise standard of 65 dBA CNEL for residential land uses. According to Table 8-11 of the City's Master Environmental Assessment,⁵ the existing ambient noise level at about 420 feet from the centerline of Avenue L between 15th Street West and 10th Street West is 65 dBA. The nearest residence to the project site is located more than 420 feet from Avenue L (**Figure 1**), which means the existing ambient noise level at the receptor is below 65 dBA. Therefore, the project should not generate noise levels that exceed 65 dBA at the nearest noise-sensitive receptor during project construction.

Pile driving, which can generate extreme levels of noise, will be used during project construction for the proposed underground parking garages (see page 42 of the Initial Study). The pile driving would be located as close as 200 feet from the nearest resident to the southwest of the project site. Baseline quantified the maximum noise levels that would result from the operation of an impact pile driver at 200 feet from the residence (**Attachment C**). As summarized in **Table 3**, an impact pile driver would generate noise levels as high as 79 dBA Leq (86 dBA Lmax) at the nearest sensitive receptor during project construction, which substantially exceeds the City's noise standard of 65 dBA. Therefore, project construction would have a significant noise impact on nearby receptors and mitigation measures must be identified and evaluated to determine if noise levels can be reduced below the City's standard.

⁵ RBF Consulting, 2009. Final Master Environmental Assessment.

<https://www.cityoflancasterca.org/home/showpublisheddocument/11352/635775792210230000>. April.

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Figure 1. Nearest Noise-Sensitive Receptor to Project Site



Table 3. Noise Levels from Impact Pile Driver during Project Construction

Equipment	Distance to Nearest Receptor (feet)	Noise Level at Nearest Receptor (dBA, Leq)	City Noise Level Standard (dBA)	Standard Exceeded?
Impact Pile Driver	200	79	65	Yes

Source: See Attachment C

Conclusions

Based on our review, the Initial Study substantially understates and fails to fully analyze the severity and extent of the project's significant effects on air quality and noise. Baseline has performed a limited analysis of specific air quality and noise effects and identified potentially-significant impacts that require detailed evaluations and mitigation. Therefore, Baseline recommends that the City of Lancaster prepare an Environmental Impact Report to evaluate and mitigate the air quality and noise impacts described above.

Sincerely,

Patrick Sutton
Principal Environmental Engineer

ATTACHMENT A

CalEEMod Report

Westlanc Partners Mixed-Use Project: Construction DPM Emissions Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Westlanc Partners Mixed-Use Project: Construction DPM Emissions
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.50
Precipitation (days)	13.0
Location	15th St W & W Ave L, Lancaster, CA 93534, USA
County	Los Angeles-Mojave Desert
City	Lancaster
Air District	Antelope Valley AQMD
Air Basin	Mojave Desert
TAZ	3664
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hotel	235	Room	7.83	341,220	0.00	—	—	—
Apartments Mid Rise	180	Dwelling Unit	4.74	172,800	19,906	—	533	—

High Turnover (Sit Down Restaurant)	12.8	1000sqft	0.29	12,800	4,039	—	—	—
Health Club	3.80	1000sqft	0.09	3,800	2,190	—	—	—
Recreational Swimming Pool	7.01	1000sqft	0.16	7,012	0.00	—	—	—
Parking Lot	544	Space	4.90	0.00	0.00	—	—	—
Enclosed Parking Structure	255	Space	2.29	102,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	PM10E
Daily, Summer (Max)	—
Unmit.	1.30
Daily, Winter (Max)	—
Unmit.	3.33
Average Daily (Max)	—
Unmit.	0.74
Annual (Max)	—
Unmit.	0.13

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	PM10E
------	-------

Daily - Summer (Max)	—
2025	1.30
2026	0.42
Daily - Winter (Max)	—
2025	3.33
2026	0.42
Average Daily	—
2025	0.74
2026	0.22
Annual	—
2025	0.13
2026	0.04

3. Construction Emissions Details

3.1. Basement Foundation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	PM10E
Onsite	—
Daily, Summer (Max)	—
Daily, Winter (Max)	—
Off-Road Equipment	1.96
Onsite truck	0.00
Average Daily	—
Off-Road Equipment	0.32
Onsite truck	0.00
Annual	—
Off-Road Equipment	0.06

Onsite truck	0.00
Offsite	—
Daily, Summer (Max)	—
Daily, Winter (Max)	—
Worker	0.00
Vendor	0.00
Hauling	0.00
Average Daily	—
Worker	0.00
Vendor	0.00
Hauling	0.00
Annual	—
Worker	0.00
Vendor	0.00
Hauling	0.00

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	PM10E
Onsite	—
Daily, Summer (Max)	—
Daily, Winter (Max)	—
Off-Road Equipment	1.37
Dust From Material Movement	—
Onsite truck	0.00
Average Daily	—
Off-Road Equipment	0.04
Dust From Material Movement	—

Onsite truck	0.00
Annual	—
Off-Road Equipment	0.01
Dust From Material Movement	—
Onsite truck	0.00
Offsite	—
Daily, Summer (Max)	—
Daily, Winter (Max)	—
Worker	0.00
Vendor	0.00
Hauling	0.00
Average Daily	—
Worker	0.00
Vendor	0.00
Hauling	0.00
Annual	—
Worker	0.00
Vendor	0.00
Hauling	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	PM10E
Onsite	—
Daily, Summer (Max)	—
Off-Road Equipment	1.30
Dust From Material Movement	—
Onsite truck	0.00

Daily, Winter (Max)	—
Off-Road Equipment	1.30
Dust From Material Movement	—
Onsite truck	0.00
Average Daily	—
Off-Road Equipment	0.13
Dust From Material Movement	—
Onsite truck	0.00
Annual	—
Off-Road Equipment	0.02
Dust From Material Movement	—
Onsite truck	0.00
Offsite	—
Daily, Summer (Max)	—
Worker	0.00
Vendor	0.00
Hauling	0.00
Daily, Winter (Max)	—
Worker	0.00
Vendor	0.00
Hauling	0.00
Average Daily	—
Worker	0.00
Vendor	0.00
Hauling	0.00
Annual	—
Worker	0.00
Vendor	0.00

Hauling	0.00
---------	------

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	PM10E
Onsite	—
Daily, Summer (Max)	—
Off-Road Equipment	0.43
Onsite truck	0.00
Daily, Winter (Max)	—
Off-Road Equipment	0.43
Onsite truck	0.00
Average Daily	—
Off-Road Equipment	0.23
Onsite truck	0.00
Annual	—
Off-Road Equipment	0.04
Onsite truck	0.00
Offsite	—
Daily, Summer (Max)	—
Worker	0.00
Vendor	0.04
Hauling	0.00
Daily, Winter (Max)	—
Worker	0.00
Vendor	0.04
Hauling	0.00
Average Daily	—

Worker	0.00
Vendor	0.02
Hauling	0.00
Annual	—
Worker	0.00
Vendor	< 0.005
Hauling	0.00

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	PM10E
Onsite	—
Daily, Summer (Max)	—
Off-Road Equipment	0.38
Onsite truck	0.00
Daily, Winter (Max)	—
Off-Road Equipment	0.38
Onsite truck	0.00
Average Daily	—
Off-Road Equipment	0.18
Onsite truck	0.00
Annual	—
Off-Road Equipment	0.03
Onsite truck	0.00
Offsite	—
Daily, Summer (Max)	—
Worker	0.00
Vendor	0.04

Hauling	0.00
Daily, Winter (Max)	—
Worker	0.00
Vendor	0.04
Hauling	0.00
Average Daily	—
Worker	0.00
Vendor	0.02
Hauling	0.00
Annual	—
Worker	0.00
Vendor	< 0.005
Hauling	0.00

3.11. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	PM10E
Onsite	—
Daily, Summer (Max)	—
Off-Road Equipment	0.32
Paving	—
Onsite truck	0.00
Daily, Winter (Max)	—
Off-Road Equipment	0.32
Paving	—
Onsite truck	0.00
Average Daily	—
Off-Road Equipment	0.02

Paving	—
Onsite truck	0.00
Annual	—
Off-Road Equipment	< 0.005
Paving	—
Onsite truck	0.00
Offsite	—
Daily, Summer (Max)	—
Worker	0.00
Vendor	0.00
Hauling	0.00
Daily, Winter (Max)	—
Worker	0.00
Vendor	0.00
Hauling	0.00
Average Daily	—
Worker	0.00
Vendor	0.00
Hauling	0.00
Annual	—
Worker	0.00
Vendor	0.00
Hauling	0.00

3.13. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	PM10E
Onsite	—

Daily, Summer (Max)	—
Daily, Winter (Max)	—
Off-Road Equipment	0.02
Architectural Coatings	—
Onsite truck	0.00
Average Daily	—
Off-Road Equipment	< 0.005
Architectural Coatings	—
Onsite truck	0.00
Annual	—
Off-Road Equipment	< 0.005
Architectural Coatings	—
Onsite truck	0.00
Offsite	—
Daily, Summer (Max)	—
Daily, Winter (Max)	—
Worker	0.00
Vendor	0.00
Hauling	0.00
Average Daily	—
Worker	0.00
Vendor	0.00
Hauling	0.00
Annual	—
Worker	0.00
Vendor	0.00
Hauling	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	PM10E
Daily, Summer (Max)	—
Total	—
Daily, Winter (Max)	—
Total	—
Annual	—
Total	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	PM10E
Daily, Summer (Max)	—
Total	—
Daily, Winter (Max)	—
Total	—
Annual	—
Total	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	PM10E
Daily, Summer (Max)	—

Avoided	—
Subtotal	—
Sequestered	—
Subtotal	—
Removed	—
Subtotal	—
—	—
Daily, Winter (Max)	—
Avoided	—
Subtotal	—
Sequestered	—
Subtotal	—
Removed	—
Subtotal	—
—	—
Annual	—
Avoided	—
Subtotal	—
Sequestered	—
Subtotal	—
Removed	—
Subtotal	—
—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
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Basement Foundation	Trenching	1/1/2025	3/25/2025	5.00	60.0	—
Site Preparation	Site Preparation	1/30/2025	2/13/2025	5.00	10.0	—
Grading	Grading	2/14/2025	4/4/2025	5.00	35.0	—
Building Construction	Building Construction	4/5/2025	9/5/2026	5.00	370	—
Paving	Paving	9/6/2026	10/4/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	10/5/2026	11/2/2026	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Basement Foundation	Rubber Tired Loaders	Diesel	Average	6.00	8.00	367	0.40
Basement Foundation	Excavators	Diesel	Average	6.00	8.00	158	0.38
Basement Foundation	Bore/Drill Rigs	Diesel	Average	6.00	8.00	33.0	0.73
Basement Foundation	Pumps	Diesel	Average	6.00	8.00	11.0	0.74
Basement Foundation	Generator Sets	Diesel	Average	3.00	8.00	14.0	0.74
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	158	0.38
Grading	Tractors/Loaders/Back hoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
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	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45

Building Construction	Tractors/Loaders/Back	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	326	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	95.8	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT

Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	65.1	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Basement Foundation	—	—	—	—
Basement Foundation	Worker	67.5	18.5	LDA,LDT1,LDT2
Basement Foundation	Vendor	—	10.2	HHDT,MHDT
Basement Foundation	Hauling	0.00	20.0	HHDT
Basement Foundation	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	349,920	116,640	541,229	179,410	18,794

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	15.0	0.00	—

Grading	—	—	105	0.00	—
Paving	0.00	0.00	0.00	0.00	7.19

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hotel	0.00	0%
Apartments Mid Rise	—	0%
High Turnover (Sit Down Restaurant)	0.00	0%
Health Club	0.00	0%
Recreational Swimming Pool	0.00	0%
Parking Lot	4.90	100%
Enclosed Parking Structure	2.29	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
-----------	--------	------------------------------	------------------------------

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	34.8	annual days of extreme heat
Extreme Precipitation	1.35	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	1.27	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.7
AQ-PM	9.67
AQ-DPM	66.3
Drinking Water	50.7
Lead Risk Housing	30.7
Pesticides	0.00
Toxic Releases	93.8
Traffic	68.8
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	22.1
Haz Waste Facilities/Generators	57.5
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	98.9
Cardio-vascular	89.4
Low Birth Weights	49.9

Socioeconomic Factor Indicators	—
Education	52.3
Housing	73.0
Linguistic	24.8
Poverty	66.6
Unemployment	23.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	35.28807905
Employed	19.02989863
Median HI	25.58706532
Education	—
Bachelor's or higher	39.89477736
High school enrollment	19.62017195
Preschool enrollment	8.700115488
Transportation	—
Auto Access	52.9449506
Active commuting	34.65930964
Social	—
2-parent households	4.632362376
Voting	33.06813807
Neighborhood	—
Alcohol availability	79.39176184
Park access	15.02630566
Retail density	48.35108431

Supermarket access	37.20005133
Tree canopy	8.995252149
Housing	—
Homeownership	25.38175286
Housing habitability	49.35198255
Low-inc homeowner severe housing cost burden	53.90735275
Low-inc renter severe housing cost burden	34.91595021
Uncrowded housing	71.88502502
Health Outcomes	—
Insured adults	75.63197742
Arthritis	20.2
Asthma ER Admissions	2.3
High Blood Pressure	25.9
Cancer (excluding skin)	21.2
Asthma	25.7
Coronary Heart Disease	13.8
Chronic Obstructive Pulmonary Disease	17.9
Diagnosed Diabetes	41.8
Life Expectancy at Birth	20.6
Cognitively Disabled	52.2
Physically Disabled	26.6
Heart Attack ER Admissions	4.0
Mental Health Not Good	35.7
Chronic Kidney Disease	27.1
Obesity	36.5
Pedestrian Injuries	49.3
Physical Health Not Good	35.8
Stroke	17.3

Health Risk Behaviors	—
Binge Drinking	47.1
Current Smoker	34.1
No Leisure Time for Physical Activity	50.7
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	28.6
Elderly	48.0
English Speaking	88.5
Foreign-born	9.0
Outdoor Workers	68.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	66.4
Traffic Density	64.6
Traffic Access	23.0
Other Indices	—
Hardship	38.3
Other Decision Support	—
2016 Voting	44.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	62.0
Healthy Places Index Score for Project Location (b)	24.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Initial Study
Land Use	Based on Initial Study
Construction: Construction Phases	Changed Demolition Phase to Basement Foundation Phase for the subsurface garages.
Construction: Off-Road Equipment	Updated equipment for excavating and building the foundations for the three subsurface garages and fixed bug in default horsepower for excavators to 158 hp based on prior version of CalEEMod. Assumed approximately 70,000 CY of soil excavation for for basement foundations.
Construction: Dust From Material Movement	Added 70,000 cubic yards of excavation for subsurface garages.

ATTACHMENT B

Health Risk Assessment

Summary of AERMOD Model Parameters, Assumptions, and Results for DPM Emissions from Construction

AERMOD Model Parameters and Assumptions			
Source Type	Units	Value	Notes
Area Source: Off-Road Equipment Exhaust (DPM)			
Average Daily DPM Emission	lb/day	0.650	Exhaust PM10 emissions from offroad equipment obtained from CalEEMod. This average daily DPM emission rate was calculated based on the total off-road PM10 exhaust emissions and construction duration of 515 workdays reported by CalEEMod.
Average Hours/Work Day	hours/day	8.00	Assumed 8 hours per workday, five days per week.
DPM Emission Rate	gram/second	0.01024	This DPM emission rate is used to convert the unit emission results from AERMOD into the project emission results.
Release Height	meters	5.0	SMAQMD, 2015
Initial Vertical Dimension	meters	1.4	USEPA, 2022
AERMOD Model Results			
Sensitive Receptor	Pollutant	Annual Average Concentration	Notes
MEIR	DPM ($\mu\text{g}/\text{m}^3$)	0.0427	Nearest residential receptor

Notes:

DPM = diesel particulate matter

PM10 = particulate matter with aerodynamic resistance diameters equal to or less than 10 microns

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

Sacramento Metropolitan Air Quality Management District (SMAQMD), 2015. Guide to Air Quality Assessment in Sacramento County. June.

U.S. Environmental Protection Agency (USEPA), 2022. User's Guide for the AMS/EPA Regulatory Model (AERMOD).

Summary of Health Risk Assessment at the Maximally Exposed Individual Resident

Health Risk Assessment Parameters and Results			
Inhalation Cancer Risk Assessment for DPM	Units	0-2 Year Infant	Notes
DPM Concentration (C)	$\mu\text{g}/\text{m}^3$	0.043	AERMOD Annual Average
Daily Breathing Rate (DBR)	L/kg-day	1090	95th percentile under age of 2 (OEHHA, 2015)
Inhalation absorption factor (A)	unitless	1.0	OEHHA, 2015
Exposure Frequency (EF)	unitless	0.96	350 days/365 days in a year (OEHHA, 2015)
Dose Conversion Factor (CF_D)	$\text{mg}\cdot\text{m}^3/\mu\text{g}\cdot\text{L}$	0.000001	Conversion of μg to mg and L to m^3
Dose (D)	mg/kg/day	0.000045	$C \cdot \text{DBR} \cdot A \cdot \text{EF} \cdot \text{CF}_D$ (OEHHA, 2015)
Cancer Potency Factor (CPF)	$(\text{mg}/\text{kg}/\text{day})^{-1}$	1.1	OEHHA, 2015
Age Sensitivity Factor (ASF)	unitless	10	OEHHA, 2015
Annual Exposure Duration (ED)	years	2.0	Based on total construction period of 24 months
Averaging Time (AT)	years	70	70 years for residents (OEHHA, 2015)
Fraction of time at home (FAH)	unitless	0.85	OEHHA, 2015
Cancer Risk Conversion Factor (CF)	m^3/L	1000000	Chances per million (OEHHA, 2015)
Cancer Risk	per million	11.9	$D \cdot \text{CPF} \cdot \text{ASF} \cdot \text{ED} / \text{AT} \cdot \text{FAH} \cdot \text{CF}$ (OEHHA, 2015)

Notes:

DPM = diesel particulate matter

REL = reference exposure level

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

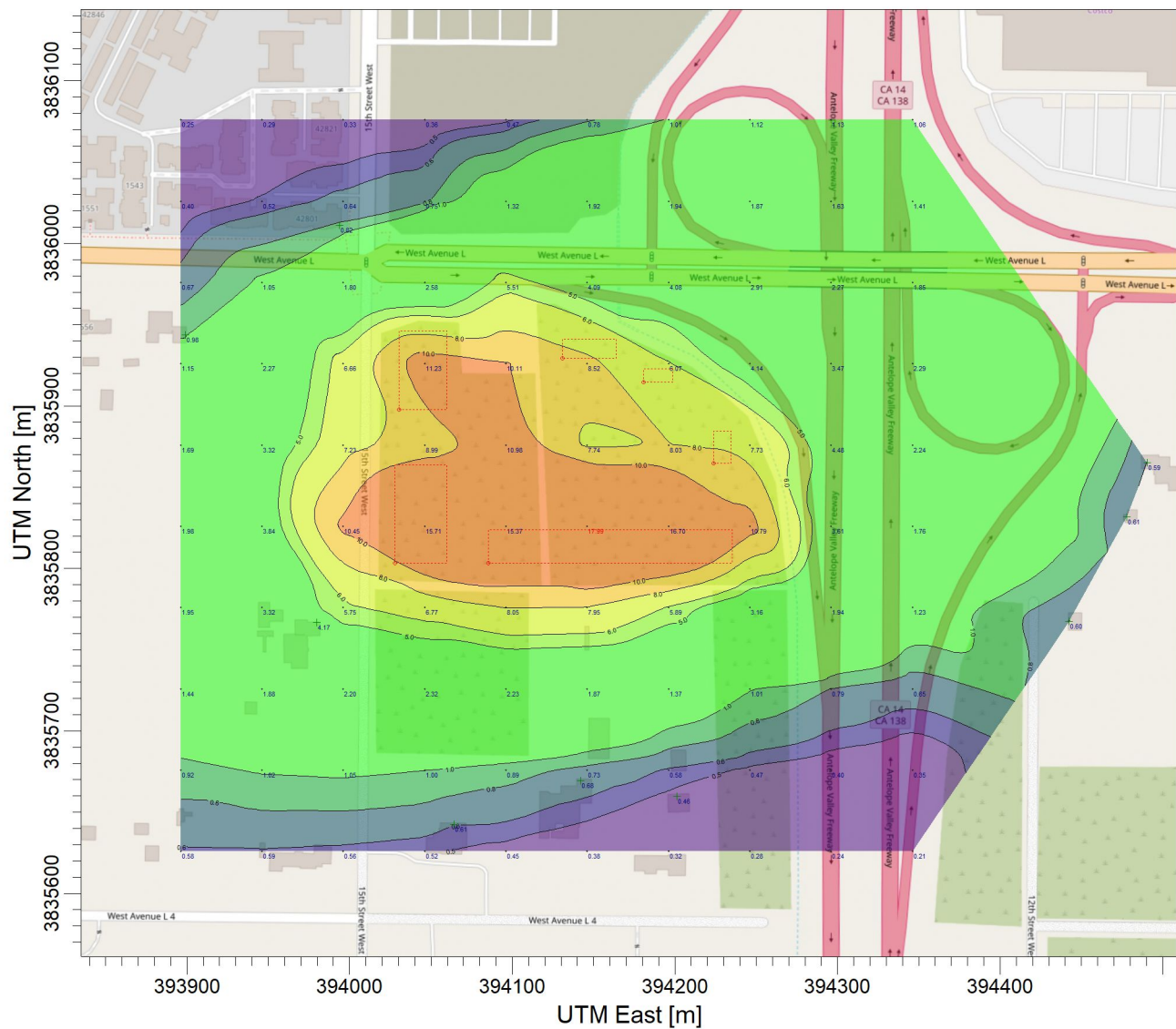
L/kg-day = liters per kilogram-day

m^3/L = cubic meters per liter

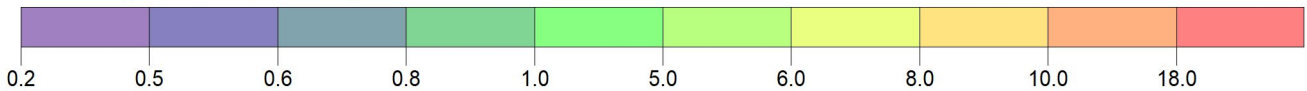
$(\text{mg}/\text{kg}/\text{day})^{-1}$ = 1/milligrams per kilograms per day


Office of Environmental Health Hazard Assessment (OEHHA), 2015. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February.

PROJECT TITLE:
Air Dispersion Results for DPM Emissions during Project Construction
(Unit Emission Rate)



PLOT FILE OF PERIOD VALUES AVERAGED ACROSS 0 YEARS FOR SOURCE GROUP: ALL ug/m^3
Max: 18.0 [ug/m^3] at (394146.08, 3835825.94)



COMMENTS:	SOURCES: 6		
	RECEPTORS: 109		
	OUTPUT TYPE: Concentration	SCALE: 1:4,239 0  0.1 km	
	MAX: 18.0 ug/m^3	PROJECT NO.:	

```

*** AERMOD - VERSION 23132 *** *** C:\Users\patrick\Desktop
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*** AERMET - VERSION 21112 *** ***
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*** MODELOPTs: CONC ELEV FLGPOL RURAL ADJ_U*

```

*** MODEL SETUP
OPTIONS SUMMARY ***
-----

```

```

** Model Options Selected:
* Model Allows User-Specified Options
* Model Is Setup For Calculation of Average CONCentration
Values.
* NO GAS DEPOSITION Data Provided.
* NO PARTICLE DEPOSITION Data Provided.
* Model Uses NO DRY DEPLETION. DDPLETE = F
* Model Uses NO WET DEPLETION. WETDPLT = F
* Stack-tip Downwash.
* Model Accounts for ELEVated Terrain Effects.
* Use Calms Processing Routine.
* Use Missing Data Processing Routine.
* No Exponential Decay.
* Model Uses RURAL Dispersion Only.
* ADJ_U* - Use ADJ_U* option for SBL in AERMET
* CCVR_Sub - Meteorological data includes CCVR
substitutions
* TEMP_Sub - Meteorological data includes TEMP
substitutions
* Model Accepts FLAGPOLE Receptor . Heights.
* The User Specified a Pollutant Type of: PM_10

```

**Model Calculates PERIOD Averages Only

**This Run Includes: 6 Source(s); 1 Source Group(s);
and 109 Receptor(s)

```

with: 0 POINT(s), including
      0 POINTCAP(s) and 0 POINTHOR(s)
and: 0 VOLUME source(s)
and: 6 AREA type source(s)
and: 0 LINE source(s)
and: 0 RLINE/RLINEXT source(s)
and: 0 OPENPIT source(s)
and: 0 BUOYANT LINE source(s) with a total
of 0 line(s)
and: 0 SWPOINT source(s)

```


**Model Set To Continue RUNning After the Setup Testing.
 **The AERMET Input Meteorological Data Version Date: 21112
 **Output Options Selected:
 Model Outputs Tables of PERIOD Averages by Receptor
 Model Outputs External File(s) of High Values for
 Plotting (PLOTFILE Keyword)
 Model Outputs Separate Summary File of High Ranked
 Values (SUMMFILE Keyword)

 **NOTE: The Following Flags May Appear Following CONC Values:
 c for Calm Hours

 m for Missing Hours

 b for Both Calm and Missing Hours

 **Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) =
 712.60 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
 Emission Units =
 GRAMS/SEC ; Emission Rate Unit
 Factor = 0.10000E+07
 Output Units = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model = 3.5 MB of
 RAM.

 **Input Runstream File: aermod.inp
 **Output Print File: aermod.out

 **Detailed Error/Message File: Westlanc.err
 **File for Summary of Results: Westlanc.sum


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*** MODELOPTs: CONC ELEV FLGPOL RURAL ADJ_U*

*** UP TO THE FIRST 24 HOURS

OF METEOROLOGICAL DATA ***

```

Surface file: KWJF_723816_03159\723816_2017-2021_AdjU.sfc
Met Version: 21112
Profile file: KWJF_723816_03159\723816_2017-2021_AdjU.pfl
Surface format: FREE
Profile format: FREE
Surface station no.: 3159 Upper air
station no.: 93214
Name: UNKNOWN
Name: UNKNOWN
Year: 2017
Year: 2017

```

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN
Z0	BOWEN	ALBEDO	REF	WS	WD	HT	REF	TA	HT			
17	01	01	1	01	-20.9	0.223	-9.000	-9.000	-999.	253.		54.7
0.08	3.25	1.00			2.86	281.	10.0	277.0	2.0			
17	01	01	1	02	-21.4	0.228	-9.000	-9.000	-999.	262.		57.4
0.04	3.25	1.00			3.36	258.	10.0	277.5	2.0			
17	01	01	1	03	-24.6	0.262	-9.000	-9.000	-999.	322.		75.5
0.04	3.25	1.00			3.83	252.	10.0	277.0	2.0			
17	01	01	1	04	-16.2	0.175	-9.000	-9.000	-999.	179.		33.7
0.03	3.25	1.00			2.69	216.	10.0	275.9	2.0			
17	01	01	1	05	-8.9	0.130	-9.000	-9.000	-999.	113.		20.5
0.05	3.25	1.00			1.91	171.	10.0	277.0	2.0			
17	01	01	1	06	-25.8	0.275	-9.000	-9.000	-999.	347.		83.4
0.03	3.25	1.00			4.14	231.	10.0	277.0	2.0			
17	01	01	1	07	-37.5	0.397	-9.000	-9.000	-999.	600.		173.3
0.08	3.25	1.00			4.97	278.	10.0	275.4	2.0			
17	01	01	1	08	-23.5	0.297	-9.000	-9.000	-999.	395.		97.2
0.04	3.25	0.60			4.31	244.	10.0	279.2	2.0			
17	01	01	1	09	25.2	0.504	0.475	0.008	141.	860.	-421.5	
0.04	3.25	0.37			6.89	260.	10.0	281.4	2.0			
17	01	01	1	10	94.9	0.626	1.121	0.005	492.	1188.	-214.6	
0.04	3.25	0.29			8.45	261.	10.0	283.8	2.0			
17	01	01	1	11	143.7	0.772	1.460	0.007	718.	1624.	-265.1	
0.08	3.25	0.26			9.10	273.	10.0	284.9	2.0			
17	01	01	1	12	168.0	1.035	1.602	0.005	810.	2516.	-544.8	
0.08	3.25	0.25			12.35	271.	10.0	285.9	2.0			

17	01	01	1	13	167.0	0.882	1.755	0.011	1072.	2031.	-339.9
0.04	3.25				0.26	12.01	265.	10.0	287.0	2.0	
17	01	01	1	14	139.7	0.925	1.670	0.009	1104.	2131.	-468.2
0.04	3.25				0.27	12.65	256.	10.0	286.4	2.0	
17	01	01	1	15	87.7	0.788	1.438	0.008	1122.	1711.	-461.8
0.04	3.25				0.30	10.78	243.	10.0	284.9	2.0	
17	01	01	1	16	16.4	0.685	0.822	0.005	1124.	1381.	-1627.1
0.03	3.25				0.39	9.75	237.	10.0	283.1	2.0	
17	01	01	1	17	-57.0	0.667	-9.000	-9.000	-999.	1311.	490.0
0.04	3.25				0.65	9.39	242.	10.0	281.4	2.0	
17	01	01	1	18	-54.1	0.585	-9.000	-9.000	-999.	1084.	376.6
0.04	3.25				1.00	8.28	244.	10.0	280.9	2.0	
17	01	01	1	19	-56.2	0.606	-9.000	-9.000	-999.	1132.	404.5
0.03	3.25				1.00	8.83	237.	10.0	280.4	2.0	
17	01	01	1	20	-55.2	0.595	-9.000	-9.000	-999.	1103.	389.9
0.04	3.25				1.00	8.42	243.	10.0	280.4	2.0	
17	01	01	1	21	-62.0	0.668	-9.000	-9.000	-999.	1306.	490.3
0.03	3.25				1.00	9.69	239.	10.0	280.4	2.0	
17	01	01	1	22	-64.0	0.715	-9.000	-9.000	-999.	1447.	561.6
0.04	3.25				1.00	10.05	240.	10.0	279.9	2.0	
17	01	01	1	23	-54.5	0.586	-9.000	-9.000	-999.	1096.	377.4
0.03	3.25				1.00	8.54	236.	10.0	279.9	2.0	
17	01	01	1	24	-46.2	0.496	-9.000	-9.000	-999.	848.	270.7
0.03	3.25				1.00	7.28	236.	10.0	279.2	2.0	

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
17	01	01	01	10.0	1	281.	2.86	277.1			
99.0	-99.00	-99.00									

F indicates top of profile (=1) or below (=0)

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*** MODELOPTs: CONC ELEV FLGPOL RURAL ADJ_U*

*** THE SUMMARY OF
 MAXIMUM PERIOD (43824 HRS) RESULTS ***

*** CONC OF PM_10 IN
 MICROGRAMS/M**3 ***

NETWORK

GROUP ID	AVERAGE CONC			
RECEPTOR	(XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID	
ALL	1ST HIGHEST VALUE IS	17.99452	AT (394146.08,	
3835825.94,	749.40, 749.40,	1.50)	GC UCART1	
	2ND HIGHEST VALUE IS	16.70328	AT (394196.08,	
3835825.94,	749.40, 749.40,	1.50)	GC UCART1	
	3RD HIGHEST VALUE IS	15.71141	AT (394046.08,	
3835825.94,	748.90, 748.90,	1.50)	GC UCART1	
	4TH HIGHEST VALUE IS	15.37474	AT (394096.08,	
3835825.94,	749.30, 749.30,	1.50)	GC UCART1	
	5TH HIGHEST VALUE IS	11.23289	AT (394046.08,	
3835925.94,	747.50, 747.50,	1.50)	GC UCART1	
	6TH HIGHEST VALUE IS	10.97780	AT (394096.08,	
3835875.94,	748.40, 748.40,	1.50)	GC UCART1	
	7TH HIGHEST VALUE IS	10.79475	AT (394246.08,	
3835825.94,	749.40, 749.40,	1.50)	GC UCART1	
	8TH HIGHEST VALUE IS	10.44953	AT (393996.08,	
3835825.94,	748.70, 748.70,	1.50)	GC UCART1	
	9TH HIGHEST VALUE IS	10.10649	AT (394096.08,	
3835925.94,	747.80, 747.80,	1.50)	GC UCART1	
	10TH HIGHEST VALUE IS	8.98897	AT (394046.08,	
3835875.94,	748.10, 748.10,	1.50)	GC UCART1	

*** RECEPTOR TYPES: GC = GRIDCART
 GP = GRIDPOLR
 DC = DISCCART
 DP = DISCPOLR

```

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*** MODELOPTs:    CONC  ELEV  FLGPOL  RURAL  ADJ_U*

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*** Message Summary : AERMOD Model Execution ***

----- Summary of Total Messages -----

```

A Total of          0 Fatal Error Message(s)
A Total of          2 Warning Message(s)
A Total of        1556 Informational Message(s)

A Total of        43824 Hours Were Processed

A Total of          854 Calm Hours Identified

A Total of          702 Missing Hours Identified ( 1.60
Percent)

```

```

***** FATAL ERROR MESSAGES *****
***    NONE    ***

```

```

***** WARNING MESSAGES *****
ME W186      453      MEOPEN: THRESH_1MIN 1-min ASOS wind speed
threshold used          0.50
ME W187      453      MEOPEN: ADJ_U* Option for Stable Low Winds
used in AERMET

```

ATTACHMENT C

Noise Calculations

Construction Noise Calculations for Potential Adverse Effects

Noise Generating Equipment (USDOT List) ¹	Acoustical Usage Factor ¹	Maximum Noise Level @ 50 feet (Lmax) ²	Typical Noise Level @ 50 feet (dBA ₁) ³	Ground Absorption Constant (G)	Reference Distance (D ₁)	Distance to Receptor (D ₂)	Noise Level at Receptor (dBA ₂)	Noise Threshold
Unit:	%	dBA Lmax	dBA Leq	unitless	feet	feet	dBA Leq	dBA Leq
Impact Pile Driver	20	101	94	0.5	50	200	79	65

Notes:

Noise level at the receptor calculated based on the following equation:

$$dBA_2 = dBA_1 + 10 * \log_{10}(D_1/D_2)^{2+G}$$

Where:

dBA₂ = Noise level at receptor

dBA₁ = Noise level at reference distance

D₁ = Reference distance

D₂ = Receptor distance

G = Ground absorption constant (0 for hard surface, 0.5 for soft surface)

¹ U.S. Department of Transportation, 2006. FHWA Highway Construction Noise Handbook, Table 9.1. August.

² Federal Transit Administration, 2018. Transit Noise and Vibration Impact Assessment Manual, Table 7-1. September.

³ California Department of Transportation, 1998. Technical Noise Supplement (TeNS). Equation N-2141.2. October.

ATTACHMENT D

Staff Resume

Patrick Sutton, P.E.

Principal Environmental Engineer



Areas of Expertise

Air Quality, GHGs, Noise, Hazardous Materials, Geology, and Hydrology

Education

M.S., Civil and Environmental Engineering, University of California – Davis

B.S., Environmental Science, Dickinson College

Registration

Professional Engineer No. 13609 (RI)

Years of Experience

20 Years

Patrick Sutton is an environmental engineer who specializes in the assessment of hazardous materials released into the environment. Mr. Sutton prepares technical reports in support of environmental review, such as Phase I/II Environmental Site Investigations, Air Quality Reports, and Health Risk Assessments. He has prepared numerous CEQA/NEPA evaluations for air quality, GHGs, noise, energy, geology, hazardous materials, and water quality related to residential, commercial, and industrial projects, as well as large infrastructure developments. His proficiency in a wide range of modeling software (AERMOD, CalEEMod, RCEM, CT-EMFAC) as well as relational databases, GIS, and graphics design allows him to thoroughly and efficiently assess and mitigate environmental concerns.

For mixed-use development projects, Mr. Sutton has prepared health risk assessments for sensitive receptors exposed to toxic air contaminants based on air dispersion modeling. For large transportation improvement projects, Mr. Sutton has prepared air quality and hazardous materials technical reports in accordance with Caltrans requirements. The air quality assessments include the evaluation of criteria air pollutants, mobile source air toxics, and GHG emissions to support environmental review of the project under CEQA/NEPA and to determine conformity with the State Implementation Plan. The hazardous materials investigations include sampling and statistically analysis of aerially-deposited lead adjacent to highway corridors. Mr. Sutton is also an active member of ASTM International and is the author of the Standard Practice for Low-Flow Purging and Sampling Used for Groundwater Monitoring.

Project Experience

Oakland Downtown Specific Plan EIR. Prepared a program- and project-level Air Quality and GHG Emissions analysis. Developed a mitigation measure with performance standards to ensure GHG emissions from future projects comply with the Citywide 2030 GHG reduction target.

I-680 Express Lanes from SR 84 to Alcosta Boulevard Project. Prepared Initial Site Assessment and Preliminary Site Investigation to evaluate contaminants of potential concern in soil and groundwater. Prepared Air Quality Report to determine the project's conformity to federal air quality regulations and to support environmental review of the project under CEQA and NEPA.

Altamont Corridor Expressway (ACE/Forward) Project EIR/EIS. Prepared a program- and project-level Hazardous Materials analysis for over 120 miles of railroad corridor from San Jose to Merced. Hazardous materials concerns, such as release sites, petroleum pipelines, agricultural pesticides, and nearby school sites were evaluated in GIS.

Stonegate Residential Subdivision EIR. Prepared a project-level Hydrology and Water Quality analysis for a residential development located within the 100-year floodplain. The proposed project included modifications to existing levees and flood channels.

BART Silicon Valley Extension Project. Prepared Initial Site Assessment and Hazardous Materials EIS/EIR section for extending 6 miles of proposed BART service through the Cities of San Jose and Santa Clara.

EXHIBIT C



INDOOR ENVIRONMENTAL ENGINEERING



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Date: March 27, 2025

To: Richard Drury
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, California 94612

From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: Westlanc Hotel and Apartments Project, Lancaster, CA.
(IEE File Reference: P-4830)

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 $\mu\text{g}/\text{day}$. The NSRL concentration of formaldehyde that represents a daily dose of 40 μg is 2 $\mu\text{g}/\text{m}^3$, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3 , and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 $\mu\text{g}/\text{m}^3$. The median indoor formaldehyde concentration was 36 $\mu\text{g}/\text{m}^3$, and ranged from 4.8 to 136 $\mu\text{g}/\text{m}^3$, which corresponds to a median exceedance of the 2 $\mu\text{g}/\text{m}^3$ NSRL concentration of 18 and a range of 2.3 to 68.

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 $\mu\text{g}/\text{m}^3$, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the San Diego County Air Pollution Control District (SDAPCD, 2021).

Besides being a human carcinogen, formaldehyde is also a potent eye and respiratory irritant. In the CNHS, many homes exceeded the non-cancer reference exposure levels (RELs) prescribed by California Office of Environmental Health Hazard Assessment (OEHHA, 2017b). The percentage of homes exceeding the RELs ranged from 98% for the Chronic REL of 9 $\mu\text{g}/\text{m}^3$ to 28% for the Acute REL of 55 $\mu\text{g}/\text{m}^3$.

The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and

particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims.

In January 2009, the California Air Resources Board (CARB) adopted an airborne toxics control measure (ATCM) to reduce formaldehyde emissions from composite wood products, including hardwood plywood, particleboard, medium density fiberboard, and also furniture and other finished products made with these wood products (California Air Resources Board 2009). While this formaldehyde ATCM has resulted in reduced emissions from composite wood products sold in California, they do not preclude that homes built with composite wood products meeting the CARB ATCM will have indoor formaldehyde concentrations below cancer and non-cancer exposure guidelines.

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Singer et. al., 2019), and found that the median indoor formaldehyde in new homes built after 2009 with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of $22.4 \mu\text{g}/\text{m}^3$ (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 OEHHHA 10 in a million cancer risk threshold (OEHHHA, 2017a).

With respect to the Westlanc Hotel and Apartments Project, Lancaster, CA the buildings consist of residential and commercial spaces.

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

Because these residences will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor residential formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu\text{g}/\text{m}^3$ (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 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 employees of commercial spaces work 8 hours per day and inhale 20 m³ of air per day, the formaldehyde dose per work-day at the offices is 161 µg/day.

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

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

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.

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., m^2 of material/ m^2 floor area, units of furnishings/ m^2 floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

3.) Calculate the Formaldehyde Emission Rate. For each building material, calculate the formaldehyde emission rate ($\mu\text{g}/\text{h}$) from the product of the area-specific formaldehyde emission rate ($\mu\text{g}/\text{m}^2\text{-h}$) and the area (m^2) of material in the IAQ Zone, and from each furnishing (e.g. chairs, desks, etc.) from the unit-specific formaldehyde emission rate ($\mu\text{g}/\text{unit-h}$) 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. $\mu\text{g}/\text{h}$) 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 ($\mu\text{g}/\text{m}^3$) 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 ($\mu\text{g}/\text{m}^3$)

E_{total} = total formaldehyde emission rate ($\mu\text{g}/\text{h}$) 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.

The Westlanc Hotel and Apartments Project, Lancaster, CA is close to roads with moderate to high traffic (e.g., West Avenue L, Aerospace Highway-41, 15th Street West, West Avenue L-4, etc.). Thus, the Project is located in a sound impacted area.

According to Phase 1 Environmental Site Assessment Proposed Commercial Property 1340 West Avenue L (Krazan & Associates Inc, 2017) there is no acoustic study of the existing or future ambient noise levels.

However, 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 minimum of 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 Phase 1 Environmental Site Assessment Proposed Commercial Property 1340 West Avenue L (Krazan & Associates Inc, 2017) the Project is located in the Mojave Desert Air Basin, which is a State and Federal non-attainment area for PM_{2.5}.

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. at least MERV 13, or possibly MERV 14 or 15 depending on the results of the Project ambient PM_{2.5} concentrations) 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 OEHHHA 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 rates I used the CARB ATCM Phase 2 rates.

The calculated maximum number of square feet of composite wood product that can be in a residence, without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 15 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.